

Genus	Vol. 18(2): 151-207	Wrocław, 30 VI 2007
-------	---------------------	---------------------

The Cephenniini of China. III. *Cephennodes* REITTER of Sichuan and Shaanxi (Coleoptera: Scydmaenidae)

PAWEŁ JĄŁOSZYŃSKI

Os. Wichrowe Wzg3rze 22/13, 61-678 Poznań, email: japawel@man.poznan.pl

ABSTRACT. The part III of the synopsis of the cephenniine scydmaenids (Coleoptera, Scydmaenidae) of China deals with species of *Cephennodes* REITTER inhabiting two central provinces: Sichuan and Shaanxi. Twenty one new species are described: fourteen in *Cephennodes* s. str. (*C. uenoi* n. sp., *C. scolytoides* n. sp., *C. caudatus* n. sp., *C. subcaudatus* n. sp., *C. nigricollis* n. sp., *C. baculifer* n. sp., *C. nematocerus* n. sp., *C. tauroides* n. sp., *C. pteroscopus* n. sp., *C. kopeipes* n. sp., *C. abdominalis* n. sp., *C. parabdormalis*, *C. sichuanus* n. sp., and *C. simplicipes* n. sp.), and seven representing subgenus *Fusionodes* JĄŁOSZYŃSKI (*C. lustrifrons* n. sp., *C. serratus* n. sp., *C. transversicollis* n. sp., *C. magnus* n. sp., *C. wrasei* n. sp., *C. ovatus* n. sp., and *C. ascipenis* n. sp.). Relationships of the newly described taxa with previously proposed species groups are discussed, and key characters of each treated species are illustrated, including the total habitus, male secondary sexual features and the aedeagus.

Key words: Scydmaenidae, Scydmaeninae, Cephenniini, *Cephennodes*, new species, taxonomy, East Palearctic, China.

INTRODUCTION

The taxonomy of the tribe Cephenniini, presently a part of the subfamily Scydmaeninae, is particularly poorly understood. Most of hitherto published studies deal with the large West Palearctic genus *Cephennium* MÜLLER et KUNZE. In the East Palearctis and Orient, *Cephennium* is probably entirely replaced by *Cephennodes*, which in the shape proposed in the previous paper (JĄŁOSZYŃSKI 2007), will very likely prove to be the most morphologically diverse and possibly also the largest genus in the tribe. The position of cephenniines within the Scydmaeninae has never been discussed, and taking into account a set of unique characters (e.g. mouthparts) this placement is disputable. Inaccurate original descriptions, relatively uniform morphology, and extremely frag-

mentary record of presumably remarkable biodiversity of the cephenniines are major problems to be solved, before comprehensive phylogenetic analyzes can be undertaken. The number of undescribed S and SE Asiatic species known to the author is larger than all members of the tribe described so far. At the time of preparing manuscript of this paper, the author was aware of at least three yet undescribed cephenniine genera, each having a bizarre set of characters, possibly of great importance for reconstructing evolution of the group. Recording the biodiversity, an important task on its own, should bring further discoveries and detailed descriptions of characters useful for resolving taxonomic problems in the tribe.

In the previous two parts of the synopsis of the cephenniines inhabiting vast and poorly studied areas of the People's Republic of China, two species of *Neseuthia* were reported from Fujian (JAŁOSZYŃSKI 2005), and thirty species of *Cephennodes* were described from Yunnan, Guangxi, Fujian, and Jiangxi (JAŁOSZYŃSKI 2007). The latter work provided interesting data on previously poorly known and, as it appears, surprisingly diverse sexual dimorphism in *Cephennodes*. In the present part of this work the study area was expanded to cover central regions of China, which resulted in discoveries of over twenty new species of *Cephennodes* in Sichuan and Shaanxi.

The measurements and nomenclature used in the descriptive part of this paper follow those of JAŁOSZYŃSKI (2007). The following abbreviations are used: EI – elytral index; MNKB - Museum für Naturkunde, Berlin, Germany; NSMT - the National Science Museum, Tokyo; PCPJ - private collection of the author, Poznań, Poland; PCMS - private collection of Michael SCHÜLKE, Berlin. Some original labels bear information put in square brackets, therefore additional comments or explanations, when necessary, were put in braces. Each holotype designated in this study was labeled with red printed label bearing name of genus, subgenus and species followed by “m.” and “det. P. Jałoszyński, 2006, HOLOTYPUS”; paratypes bear similar, but yellow labels reading “PARATYPUS”.

TAXONOMY

Subgenus *Cephennodes* s. str.

The *excavatus*-group

This species group was defined as having the aedeagus of the modified *latus* type, with large and broad, more or less oval median lobe. Its dorsal membranous area is relatively large, and slant, the apical projections are generally subtriangular in shape, with ventral hook. The body is moderately to very convex, often with the head and the pronotum darker than the elytra, sometimes nearly black (which is a very rare color among cephenniines). In most species of the group males have odd (sometimes multiple) modifications of the elytra, sometimes also modified antennae, legs or the last visible abdominal sternite. Six new species are described below, which together

with the previously known ones (*C. excavatus*, *C. spinosus*, *C. bicolor*, *C. hamatus*, and *C. superlatus*) gives 11 named members of the group. Interestingly, the *excavatus* species lineage seems to be restricted to China, or at least to the Far East; no similar species are known to the author from other countries, and extensive sampling in nine provinces of Vietnam yielded no representatives of this group (JAŁOSZYŃSKI & NOMURA, in preparation).

***Cephennodes* (s. str.) *uenoi* n. sp.**

(Figs. 1-3, 19, 25)

NAME DERIVATION

The name is dedicated to the collector of the type material, Dr. Shun-ichi UENO of the National Science Museum, Tokyo.

DIAGNOSIS

Males of this species differ from all similar congeners in unique secondary sexual characters: apex of each elytron bears large, subtriangular, flat tubercle or expansion with carinate anterior (upper) margin, short adsutural area above each projection is raised and forms short longitudinal carina accompanied by long bunch of long setae, which are directed posteriorly and strongly curved, so that they intercross in middle just behind adsutural angle of elytra; oval area lateral to each subtriangular expansion is moderately deeply impressed and surrounded anteriorly and laterally by sparse, long setae; additionally each elytron bears elongate setal patch along lateral margin composed of setae directed posteriorly and toward long axis of the patch (i.e., setae inserted at each side of patch have apices located near its middle). Females, devoid of such modifications, can be identified only by direct comparison with males on the basis of similar body shape and pigmentation, preferably when collected together.

DESCRIPTION

Male (Fig. 19). Body moderately large, 1.58 mm in length, oval, moderately stout, with distinct constriction between pronotum and elytra, very convex, head and pronotum very dark reddish-brown, elytra and extremities light reddish-brown; setation yellowish. Head very large, length 1.30 mm, width 2.04 mm; vertex and frons regularly convex, vertex with pair of very tiny tubercles; supraantennal tubercles moderately raised; eyes moderately large, strongly convex. Punctuation on frons and vertex very fine and sparse; setation relatively sparse, moderately long, suberect. Antennae slender, moderately long, length 0.82 mm; five terminal antennomeres are covered with slightly more coarse microsculpture than remaining segments, but otherwise they are not delimited from flagellum and antennae are best described as gradually thickened toward apices; antennomere I about 1.5x as long as broad; II slightly narrower and longer than I, nearly twice as long as broad; III-VI gradually increasing in length and width from 1.2 to about 1.3x as long as broad, each distinctly narrower and shorter than II; VII distinctly longer but only slightly broader than VI, slightly less than twice as long as broad; VIII slightly broader but much shorter than VII, about 1.2x as long as broad; IX slightly

broader and longer than VIII, about 1.2x as long as broad; X yet larger, about 1.1x as long as broad; XI slightly broader than X, about as long as IX-X together.

Pronotum generally subtrapezoidal in shape, broadest slightly anterior to middle, length 0.51 mm, width 0.67 mm. Anterior margin broadly rounded; lateral margins rounded up to nearly straight hind angles; posterior margin nearly regularly rounded (barely noticeably biemarginate); lateral ante-basal pits shallow, about equally distant from posterior and lateral margins; lateral carinae extremely narrow, not separated from margins. Punctuation of pronotum very fine and sparse, barely noticeable under magnification 40x, cuticle very glossy; setation relatively sparse and short, suberect, postero-lateral margin of each ante-basal pit bears additional long seta directed posteriorly and laterally.

Elytra oval and very stout, broadest near anterior third, length 0.80 mm, width 0.75, EI 1.06. Subhumeral lines very short, only about 0.3x as long as elytra, distinctly raised, with rather blunt than carinate edges; apex of each elytron (Fig. 25) bears large, subtriangular, flat tubercle with carinate anterior (upper) margin; short adsutural area above each projection is raised and forms short carina accompanied by long bunch of strongly curved setae, which are directed posteriorly and intercross in middle just behind adsutural angle of elytra; oval area lateral to each subtriangular projection is moderately deeply impressed and surrounded anteriorly and laterally by sparse, long setae. Punctuation of elytra is more distinct than that on pronotum and composed of larger punctures, but still relatively fine and moderately dense; basic setation short, moderately dense and only slightly suberect, additionally each elytron bears elongate lateral setal patch composed of setae directed posteriorly and toward long axis of the patch (i.e., setae inserted at each side of patch have apices located near its middle). Hind wings well developed.

Metasternum very finely punctate.

Legs long and slender, except for thick and relatively short protarsi.

Aedeagus (Figs. 1-3) 0.27 mm in length, variant of *latus* type; median lobe nearly symmetrical, apical projections short and generally triangular, with very weakly curved ventral hook; parameres broad, each with pair of apical setae.

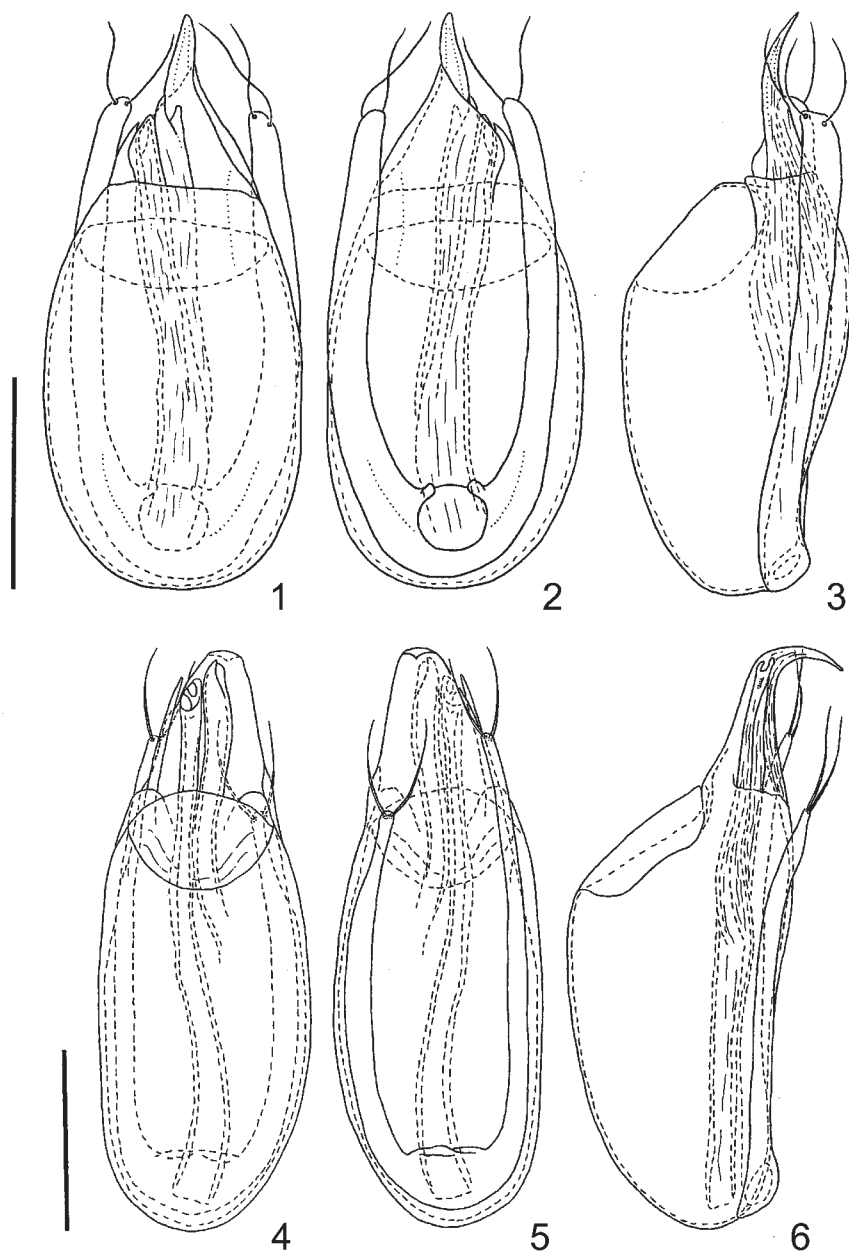
Female. Very similar to male, but with larger elytra compared to pronotum, devoid of any modifications, and entirely wingless. Body length 1.69 mm, length of head 0.27 mm, width of head 0.40 mm, length of antennae 0.80 mm, length of pronotum 0.52 mm, width of pronotum 0.70 mm, length of elytra 0.90 mm, width of elytra 0.77 mm, EI 1.17.

TYPE MATERIAL

Holotype (male): two white printed labels: "Leidongping (2,500m), Mt. Emeishan, [Sichuan, CHINA]", "{locality repeated in Chinese characters}, 1. xi. 1995, S. Uéno leg." (NSMT). Paratype: 1 ♀, same data as for holotype (PCPJ).

DISTRIBUTION

China, Sichuan Prov.



1-3. *Cephennodes uenoi* n. sp.; 4-6. *Cephennodes scolytoides* n. sp. Aedeagus in dorsal (1, 4), ventral (2, 5) and lateral (3, 6) views (scale bars: 0.1 mm)

Cephennodes (s. str.) scolytoides n. sp.

(Figs. 4-6, 20, 26)

NAME DERIVATION

The name refers to the bizarre modification of the apical region of the elytra in males, which resembles the apex of elytra of many species of the Scolytidae.

DIAGNOSIS

Males of *C. scolytoides* can be distinguished from similar congeners by unique modification of elytra: apices are truncate and deeply excavated; lateral (external) margin of excavation bears small rounded tooth, adsutural angle of each elytron bears dense, rod-like bunch of setae, and concave area is surrounded anteriorly and laterally by very long, strongly erect setae. Females have non-modified elytra and are unremarkable; they can be identified only by direct comparison with males, preferably when collected together.

DESCRIPTION

Male (Fig. 20). Body moderately large, 1.60 mm in length, strongly convex, with distinct constriction between pronotum and elytra; pronotum very dark brown, nearly black, head and elytra slightly lighter (but still dark brown, with subtle reddish shade), legs and antennae slightly lighter than elytra, setation yellowish. Head moderately large, length 0.25 mm, width 0.37 mm; vertex and frons regularly convex, vertex with pair of tiny tubercles; supraantennal tubercles moderately large, indistinctly delimited, moderately raised; eyes large and strongly convex. Punctuation on frons and vertex extremely fine, punctures are not visible under magnification 40x; setation sparse, moderately long, suberect. Antennae moderately long but very slender (including terminal part), length 0.87 mm, gradually thickened toward apices; antennomere I only about 1.2x as long as broad; II distinctly narrower and minimally shorter, about 1.2x as long as broad; III-IV subequal in length and width, each distinctly narrower and shorter than II, about 1.1-1.2x as long as broad; V-VI subequal in length and width, each minimally longer and broader than III; VII slightly broader than VI and much longer, about 1.5x as long as broad; VIII slightly broader but distinctly shorter than VII, only slightly longer than broad; IX distinctly broader and longer than VIII, slightly longer than broad; X slightly larger than IX, slightly longer than broad; XI slightly broader than X, minimally shorter than IX-X together.

Pronotum subtrapezoidal in shape, broadest near middle, length 0.50 mm, width 0.65 mm. Anterior margin relatively short, rounded; lateral margins strongly rounded in anterior third, in posterior third only slightly rounded and slightly convergent toward obtuse hind angles; posterior margin moderately deeply biemarginate; lateral ante-basal pits small, located minimally closer to lateral than to posterior margin; lateral carinae very narrow, not separated from margins. Punctuation of entire disc extremely fine, composed of very small punctures barely visible under magnification 40x, separated by variable spaces, from 2 to several times as long as puncture diameters; setation sparse and relatively short, only slightly suberect.

Elytra oval with truncate and excavated apex, broadest slightly anterior to middle, length 0.85 mm, width 0.79 mm, EI 1.07. Subhumeral lines as long as only 0.26x length of elytra, distinctly carinate; apices of elytra modified as in Fig. 26. Punctuation sparse, composed of slightly larger, but less distinct punctures than those on pronotum; setation very similar to that on pronotum but slightly more erect, apical excavation is surrounded anteriorly, laterally and posteriorly by several very long, curved setae. Hind wings well developed.

Metasternum covered with very fine punctuation.

Legs relatively long and slender, with short and broad protarsi.

Aedeagus (Figs. 4-6) 0.32 mm in length, variant of *latus* type, median lobe slender, slightly but distinctly asymmetrical, apical projections subtriangular, relatively long, with strongly curved ventral hook, parameres slender and asymmetrical, unequal in length, each with pair of apical setae.

Female. Very similar to male, but generally stouter and with elytra regularly rounded, non-modified. Body length 1.62 mm, length of head 0.25 mm, width of head 0.37 mm, length of antennae 0.82 mm, length of pronotum 0.50 mm, width of pronotum 0.70 mm, length of elytra 0.87 mm, width of elytra 0.82 mm, EI 1.06.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: W-Sichuan 1999, Ganzi Tibet Aut. Pref., Luding Co., W Erlangshan-Pass, 2600 m, 7 km SSE Luding, 29°51'N, 102°15'E, Laubstreu, Pilze, 29. VI. leg. M. Schülke", and small green printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB). Paratype: 1 ♀, same data as for holotype (PCPJ).

DISTRIBUTION

China, Sichuan Prov.

***Cephennodes (s. str.) caudatus* n. sp.**

(Figs. 7-9, 21, 27)

NAME DERIVATION

The name refers to modified apices of elytra, which bear tail-like tubercles (after Latin *cauda*, a tail).

DIAGNOSIS

Cephennodes caudatus has unique modifications of apical region of elytra, not known in any other species. Apex of each elytron is protruded posteriorly and forms slant, elongate tubercle with flattened surface, in dorsal view lateral angle of each tubercle is the most distant point from base of elytra; tubercles are sharply separated from subapical region, which is slightly flattened and bears slightly modified (e.i., shorter and denser) setae than those on remaining surface of elytra. Females and their diagnostic characters remain unknown.

DESCRIPTION

Male (Fig. 21). Body moderately small, 1.57 mm in length, elongate, with moderately distinct constriction between pronotum and elytra, dark brown, covered with light brown setation. Head moderately large, length 0.25 mm, width 0.37 mm; vertex and frons regularly convex, vertex with pair of tiny tubercles; supraantennal tubercles moderately distinct; eyes large and strongly convex. Punctuation on frons very fine but relatively sharply marked and punctures are noticeable under magnification 40x, vertex nearly impunctate; setation sparse and relatively short, suberect. Antennae moderately long, 0.79 mm in length, slender, with very indistinctly separated, very slender club composed of five terminal antennomeres; antennomere I about 1.5x as long as broad; II slightly narrower and slightly longer than I, minimally less than twice as long as broad; III-IV subequal in length and width, each distinctly narrower and shorter than II, about 1.2x as long as broad; V-VI subequal in length and width, each about as narrow as IV but distinctly longer, about 1.3-1.4x as long as broad; VII slightly broader and much longer than VI, nearly twice as long as broad; VIII distinctly broader but much shorter than VII, about 1.1x as long as broad; IX slightly broader and longer than VIII, about 1.2x as long as broad; X yet larger, slightly longer than broad; XI slightly broader than X, distinctly shorter than IX-X together.

Pronotum nearly semicircular in shape, broadest near middle, length 0.50 mm, width 0.75 mm. Anterior margin broadly rounded; lateral margins strongly rounded in anterior half, in posterior half weakly rounded and distinctly convergent toward sharp hind angles; posterior margin relatively shallowly biemarginate; lateral ante-basal pits small but well delimited, about equally distant from posterior and lateral margins; lateral carinae extremely narrow, not separated from margins. Punctuation extremely fine, but very small and sharply marked punctures are recognizable under magnification 40x; setation relatively sparse and short, suberect.

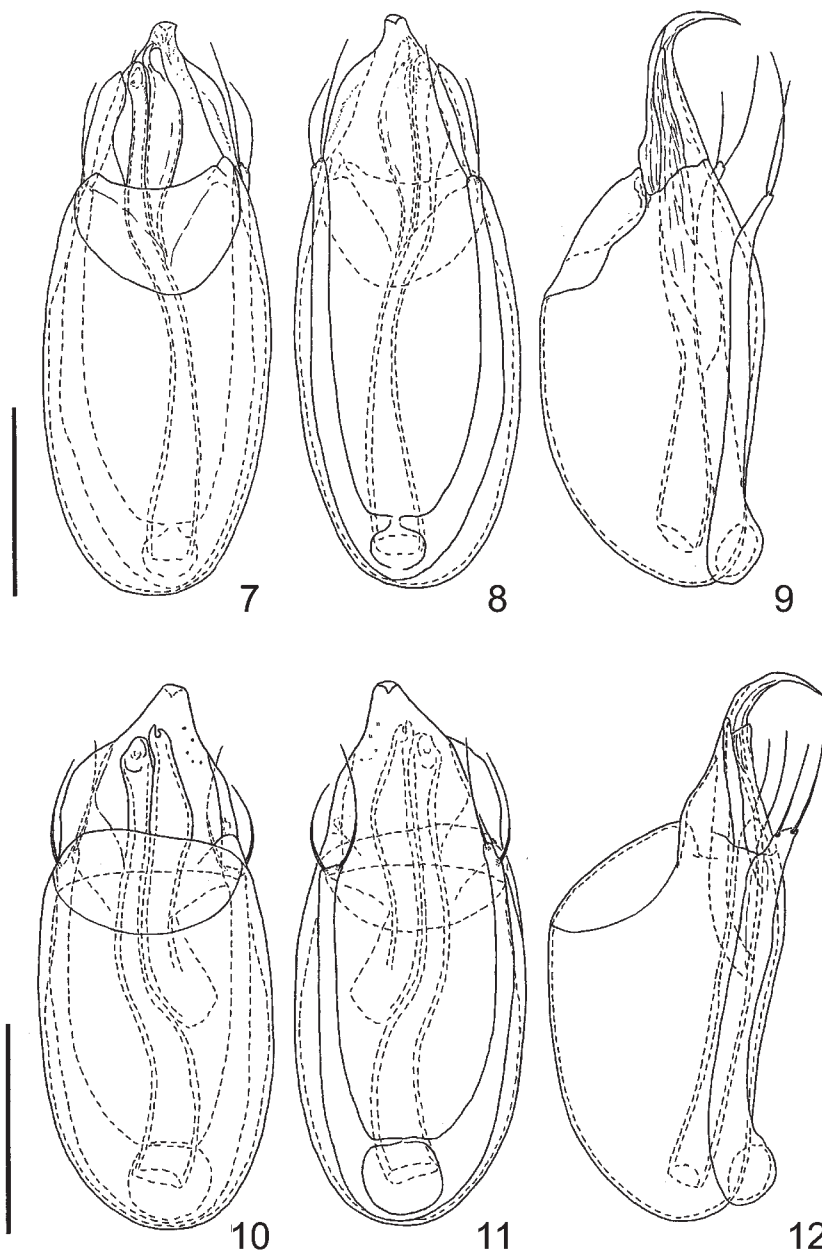
Elytra oval and elongate, broadest slightly anterior to anterior third, length 0.82 mm, width 0.75 mm, EI 1.1. Subhumeral lines as long as only 0.3x length of elytra, nearly straight and relatively distinctly carinate; apices strongly modified (Fig. 27), each with slant, elongate tubercle, in dorsal view with lateral part distinctly subtriangular and pointed, more protruded posteriorly than adsutural part; tubercles are sharply separated from subapical region, which is slightly, indistinctly flattened and covered with slightly modified setae. Punctuation distinct, moderately dense, composed of small and shallow punctures with rather diffused margins; basic setation similar to that on pronotum but minimally shorter; additionally subapical flattening is covered with distinctly denser setae and surrounded laterally and anteriorly by much longer setae directed posteriorly. Hind wings well developed.

Metasternum covered with very fine punctuation.

Legs moderately long, relatively slender, devoid of any peculiar diagnostic characters.

Aedeagus (Figs. 7-9) 0.30 mm in length, variant of *latus* type, median lobe relatively slender, slightly asymmetrical, apical projections subtrapezoidal, with strongly curved ventral hook, parameres slender, slightly unequal in length, each with pair of apical setae.

Female. Unknown.



7-9. *Cephennodes caudatus* n. sp.; 10-12. *Cephennodes subcaudatus* n. sp. Aedeagus in dorsal (7, 10), ventral (8, 11) and lateral (9, 12) views (scale bars: 0.1 mm)

TYPE MATERIAL

Holotype (male): white printed label: "CHINA (Shaanxi), Qin Ling Shan, 118 km E Xian, S. top, 1950-2000m, mix. wood, 19. VIII. 1995, Wrase" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Shaanxi Prov.

REMARKS

This species is very similar to *C. subcaudatus*; see remarks for that latter species below.

Cephennodes (s. str.) subcaudatus n. sp.

(Figs. 10-12, 22, 28)

NAME DERIVATION

The name refers to a short "tail-like" apical modification of the elytra, similar to that occurring in males of *C. caudatus*.

DIAGNOSIS

Males can be easily distinguished from any similar members of the *bicolor* species group on the basis of unique modifications of elytra, composed of broad, very distinct flattening of adsutural subapical area on each elytron covered with very dense, recumbent and moderately long setae directed posteriorly, and short apical tubercle with flattened surface. Female characters remain unknown.

DESCRIPTION

Male (Fig. 22). Body moderately small, 1.41 mm in length, elongate, with distinct constriction between pronotum and elytra, uniformly reddish-brown, covered with light brown setation. Head moderately large, length 0.21 mm, width 0.35 mm; vertex and frons regularly convex, vertex with pair of very small tubercles; supraantennal tubercles moderately large but very distinct; eyes large and strongly convex. Punctuation on frons composed of relatively sharply marked punctures, which are very small but well discernable under magnification 40x, very unevenly distributed and gradually (but relatively rapidly) reducing in diameters and becoming very indistinct posteriorly; setation sparse and relatively short, suberect. Antennae moderately long, 0.80 mm in length, slender, with indistinctly separated and slender club composed of five terminal antennomeres; antennomere I about 1.5x as long as broad; II slightly narrower and slightly longer than I, about twice as long as broad; III-IV subequal in length and width, each distinctly narrower and shorter than II, about 1.2x as long as broad; V-VI subequal in length and width, each about as narrow as IV but slightly longer; VII slightly broader and much longer than VI, about 2.1-2.2x as long as broad; VIII distinctly broader but much shorter than VII, only slightly longer than broad; IX slightly broader and longer than VIII, minimally longer than broad; X yet larger, about as long as broad; XI slightly broader than X, distinctly shorter than IX-X together.

Pronotum approximately semicircular in shape, broadest near middle, length 0.41 mm, width 0.65 mm. Anterior margin broadly rounded; lateral margins strongly rounded in anterior half, in posterior half only slightly rounded and strongly convergent toward sharp hind angles; posterior margin relatively shallowly biemarginate; lateral ante-basal pits small but relatively sharply delimited, about equally distant from posterior and lateral margins; lateral carinae extremely narrow, not separated from margins. Punctuation extremely fine, barely noticeable under magnification 40x; setation sparse and short, only slightly suberect.

Elytra oval, broadest near anterior third, length 0.79 mm, width 0.71 mm, EI 1.11. Subhumeral lines as long as 0.25x length of elytra, non-carinate, formed as distinct border between more convex humeral region and less convex subhumeral region of elytra, with relatively rounded edge; apices of elytra (Fig. 28) strongly modified, with large tubercle projecting posteriorly on each elytron, tubercles have flattened surface and are sharply separated from subapical region of elytra, which is occupied by large, distinct oval flattening covered with modified setae. Punctuation distinct and relatively dense but composed of shallow punctures with diffused, smoothed margins, surface of elytra appears very uneven; basic setation sparse, short and only slightly suberect, subapical flattening bears very dense, moderately long setae directed posteriorly, and it is surrounded laterally by setae distinctly longer than those on remaining surface. Hind wings well developed.

Metasternum covered with very fine punctures.

Legs moderately long, relatively slender, without peculiar diagnostic characters.

Aedeagus (Figs. 10-12) 0.26 mm in length, variant of *latus* type, median lobe relatively stout, slightly asymmetrical, apical projections subtrapezoidal, with strongly curved, slender ventral hook; parameres slender and slightly asymmetrical, slightly differing in length and shape of apical part, each with pair of setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: Shaanxi, Qin Ling Shan, 108.47E, 33.51N, Mountain W pass at Autoroute km 70, 47 km S Xian, 2300-2500 m, sifted, 26.-30. 08. 1995, leg. M. Schülke" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Shaanxi Prov.

REMARKS

Cephennodes subcaudatus is most similar to apparently closely related *C. caudatus*, but it has much more distinct subapical flattening of the elytra covered with dense setae, whereas the flattening in the latter species is rather indistinct and bears setae only slightly denser and shorter than those on remaining surface of the elytra; also the shape of apical tubercles differs remarkably, and *C. caudatus* has more distinctly edged subhumeral carinae on the elytra, as well as less uneven surface of the elytra. This pair of species provides further evidence for little value of the shape of subhumeral lines as diagnostic characters above the species level, discussed previously (JAŁOSZYŃSKI 2007).

Cephennodes (s. str.) nigricollis n. sp.

(Figs. 13-15, 23, 29)

NAME DERIVATION

The name refers to the black color of the pronotum.

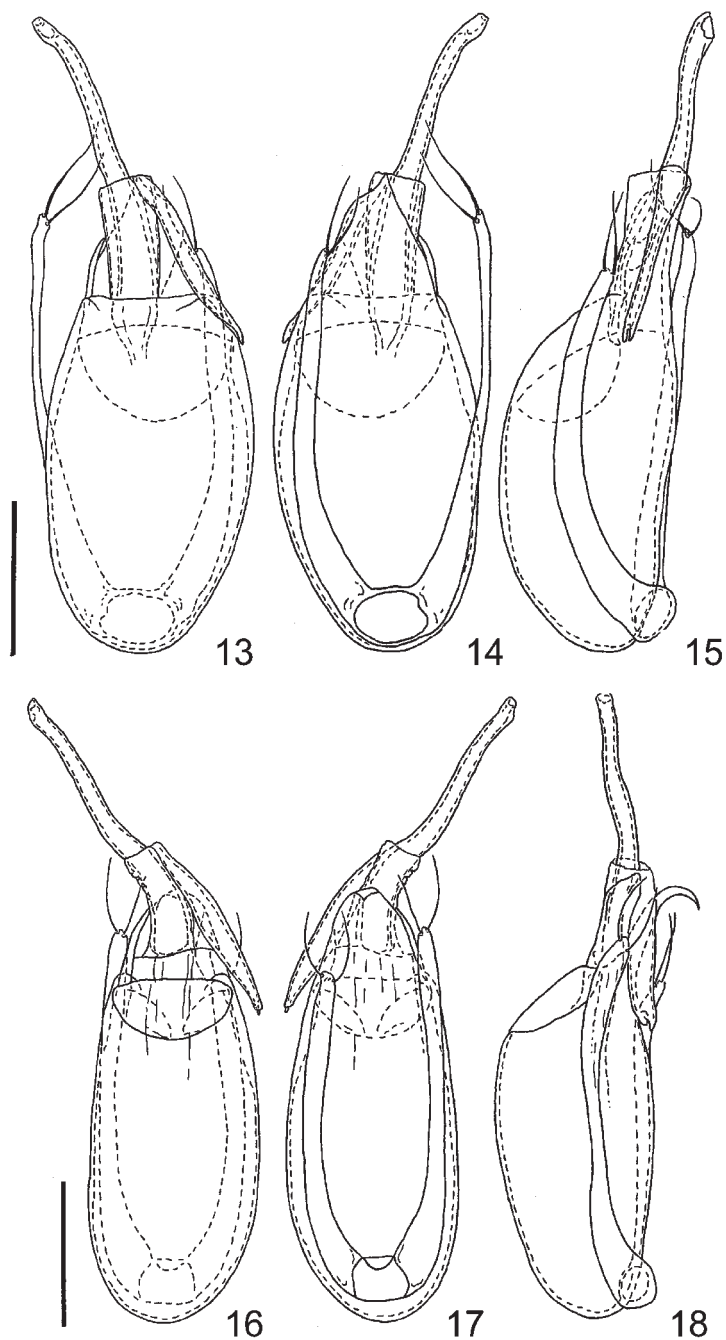
DIAGNOSIS

Males of *C. nigricollis* can be identified on the basis of unique modifications of the apical region of the elytra; each elytron bears small subapical impression adjacent to flat and broad, subtriangular and sharply delimited apical flattening, additionally adsutural margin of each subapical impression is provided with broad, ribbon-like bunch of long and dense, recumbent setae directed posteriorly, and adsutural margin of each bunch is adjacent to small, elongate tubercle. Female characters remain unknown.

DESCRIPTION

Male (Fig. 23). Body moderately large, 1.56 mm in length, very strongly convex, stout, with shallow constriction between pronotum and elytra, head and pronotum black, elytra, antennae and legs dark brown, setation light brown. Head large, length 0.25 mm, width 0.32 mm; vertex and frons regularly convex, vertex with pair of small tubercles; supraantennal tubercles only slightly raised and very indistinctly delimited; eyes large and strongly convex. Punctuation on frons and vertex extremely fine, barely noticeable under magnification 40x; setation relatively short and sparse, suberect to erect. Antennae long and very slender, 0.95 mm in length, with five terminal antennomeres covered with fine but somewhat coarse microsculpture and forming very indistinctly delimited and very slender club; antennomere I about 1.3-1.4x as long as broad; II distinctly narrower than I but comparable in length, nearly twice as long as broad; III distinctly narrower and much shorter than II, about 1.3x as long as broad; IV as narrow as III but minimally shorter; V-VI subequal in length and width, each as narrow as IV but slightly longer, about 1.4x as long as broad; VII slightly broader and distinctly longer than VI, nearly twice as long as broad; VIII slightly broader and distinctly shorter than VII, about 1.2x as long as broad; IX broader and longer than VIII, slightly longer than broad; X yet larger, slightly longer than broad; XI slightly broader than X, about as long as IX-X together.

Pronotum approximately subtrapezoidal in shape, broadest near middle, length 0.51 mm, width 0.70 mm. Anterior margin very broad, rounded; lateral margins strongly rounded in anterior half and weakly rounded in posterior half, slightly but distinctly convergent toward hind angles, which are sharp, and each forms very small tooth projecting laterally; posterior margin nearly regularly rounded and convex, only minimally biemarginate; lateral ante-basal pits small and relatively sharply delimited, located slightly closer to lateral than to posterior margin; lateral carinae very narrow, not separated from margins. Punctuation on entire disc very fine but relatively dense, punctures very small and shallow, but relatively sharply delimited and well visible under magnification 40x; setation sparse and relatively short, only slightly suberect.



13-15. *Cephennodes nigricollis* n. sp.; 16-18. *Cephennodes baculifer* n. sp. Aedeagus in dorsal (13, 16), ventral (14, 17) and lateral (15, 18) views (scale bars: 0.1 mm)

Elytra oval, distinctly broader than pronotum, broadest between middle and anterior third, length 0.80 mm, width 0.75 mm, EI 1.07. Subhumeral lines very short and indistinct, as long as only 0.15x length of elytra, formed as border between more convex humeral and less convex subhumeral region, with rather rounded than sharp edges; apices of elytra (Fig. 29) strongly modified, each elytron bears small oval, subapical impression adjacent to flat and broad, subtriangular and sharply delimited apical flattening, additionally adsutural margin of each subapical impression bears broad, ribbon-like bunch of long and dense, recumbent setae directed posteriorly, and adsutural margin of each bunch is adjacent to small, elongate tubercle. Punctuation more distinct than that on pronotum, but punctures are only minimally larger, shallow and indistinctly delimited; basic setation short and sparse, slightly suberect, becoming nearly recumbent posteriorly, additionally each apical complex of modifications is surrounded anteriorly and laterally by sparse, very long setae directed posteriorly or slightly laterally and posteriorly. Hind wings well developed.

Metasternum covered with very fine punctuation.

Legs long and slender, but with short and relatively thick tarsi, especially on front legs.

Aedeagus (Figs. 13-15) 0.30 mm in length, variant of *latus* type, in the holotype internal tubular piece is extruded; median lobe relatively stout, slightly asymmetrical, apical projections generally subtriangular, relatively short, with very weakly curved ventral hook; parameres slender and strongly asymmetrical, one much longer and thinner than the other one, each with pair of apical setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: CHINA: W-Sichuan, 1999, Ya'an Prefecture, Fulin Co., Daxiang Ling. Rd. zw. {i.e., road between} Hanyuanjie u. {i.e., and} Siping, 51 km NNE Shimian, 2300 m, 29°39'N, 102°37'E, Ufer, Gesiebe {i.e., shore or bank, sifted}, 10. VII., leg. M. Schülke", and small white printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.

***Cephennodes* (s. str.) *baculifer* n. sp.**

(Figs. 16-18, 24, 30)

NAME DERIVATION

The name refers to a pair of rod-like structures projecting posteriorly in adsutural apical angle of the elytra, after Latin *baculum* (a rod) and *fero* (to bear).

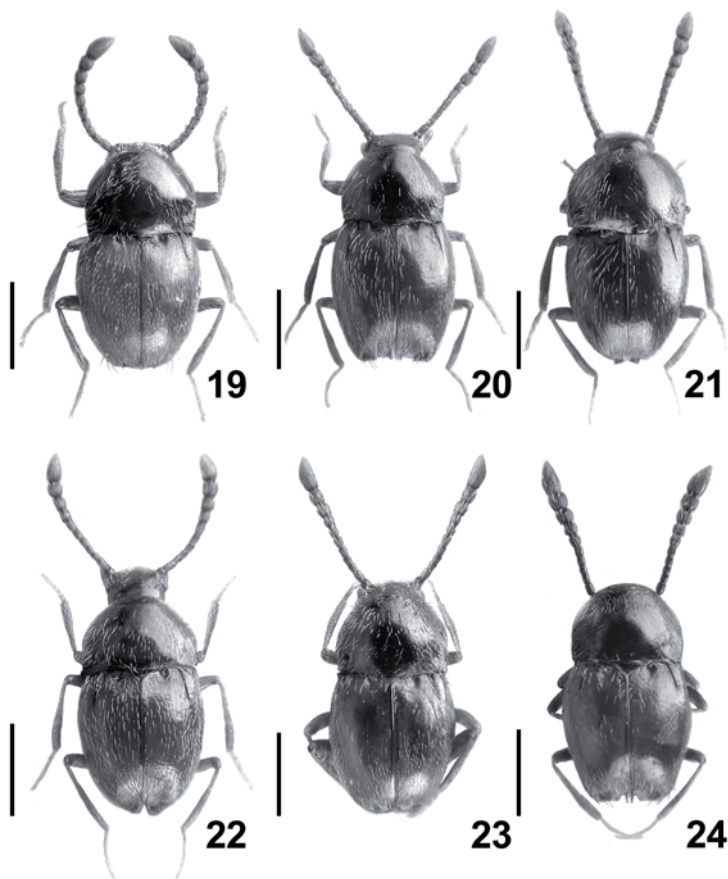
DIAGNOSIS

Males of this species are unique in having unusually short, nearly as long as broad antennomere VII, and very deep and large oval apical excavation on each elytron accompanied by a rod-like structure projecting posteriorly from adsutural angle and

sparse, long setae surrounding the excavations anteriorly and laterally. Female characters remain unknown.

DESCRIPTION

Male (Fig. 24). Body moderately large, 1.52 mm in length, very convex, with distinct but shallow constriction between pronotum and elytra, head and pronotum black, antennae nearly black in proximal half, distal half is gradually, slightly lighter (but still dark brown at apex), proximal parts of legs dark brown, tibiae and tarsi slightly lighter, elytra dark brown with subtle reddish shade, setation yellowish, on the darkest body parts setae appear silver. Head large, length 0.25 mm, width 0.42 mm; vertex and frons regularly convex, vertex with pair of small tubercles; supraantennal tubercles



19-24. Dorsal aspect of male. 19 – *Cephennodes uenoi* n. sp.; 20 – *C. scolytoides* n. sp.; 21 – *C. caudatus* n. sp.; 22 – *C. subcaudatus* n. sp.; 23 – *C. nigricollis* n. sp.; 24 – *C. baculifer* n. sp. (scale bars: 0.5 mm)

only slightly raised; eyes large and strongly convex. Punctuation extremely fine, barely discernable under magnification 40x; setation sparse, relatively short, suberect. Antennae long and slender, 0.95 mm in length, with slender but relatively well delimited 5-segmented club; antennomere I only about 1.2x as long as broad; II slightly narrower than I but comparable in length, about 1.3x as long as broad; III distinctly narrower and shorter than II, 1.2x as long as broad; IV as narrow as III but slightly shorter; V as narrow as IV but as long as III; V minimally (barely noticeably) broader and longer than V; VII distinctly broader and minimally longer than VI, only minimally longer than broad; VIII broader than VII and similar in length, about as broad as long; IX distinctly broader and slightly longer than VIII, slightly broader than long; X yet larger, about as long as broad; XI slightly broader than X, minimally shorter than IX-X together.

Pronotum approximately subtrapezoidal in shape, broadest near middle, length 0.47 mm, width 0.70 mm. Anterior margin broad, rounded; lateral margins strongly rounded in anterior half, weakly rounded in posterior half and very weakly convergent toward obtuse hind angles; posterior margin very shallowly biemarginate; lateral ante-basal pits shallow and indistinctly delimited, deepest place of each pit is located closer to lateral than posterior margin; lateral carinae extremely narrow, not separated from margins. Punctuation on central part of pronotum very fine but still recognizable under magnification up to 40x, punctures are very small and shallow but relatively sharply marked, separated by spaces about twice as long as puncture diameters, punctures near each front angle are slightly denser, but not larger than those in middle; setation sparse and relatively short, suberect.

Elytra oval with truncate and modified apex, more convex than pronotum, broadest distinctly anterior to middle, length 0.80 mm, width 0.77 mm, EI 1.04. Subhumeral lines very short, as long as only 0.2x length of elytra, with rather blunt edges; apices of elytra (Fig. 30) strongly modified, with truncate posterior margin forming broad tooth near adsutural angle, subapical area on each elytron deeply excavated, adsutural angle of each elytron bears rod-like structure projected posteriorly and slightly dorsally. Punctuation relatively dense but composed of very indistinct, diffused punctures; basic setation very short and relatively sparse, in anterior part of elytra slightly suberect, posteriorly becoming nearly recumbent, additionally apical excavation is surrounded anteriorly and laterally by very long, strongly erect setae directed posteriorly and some more laterally. Hind wings well developed.

Metasternum covered with very fine punctures.

Legs long and slender, without additional peculiar characters.

Aedeagus (Figs. 16-18) 0.31 mm in length, variant of *latus* type, in the holotype tubular internal piece is extruded; median lobe slender, slightly asymmetrical, apical projections subtriangular, moderately long, with strongly curved, slender ventral hook; parameres thick, asymmetrical, very unequal in length, each with pair of apical setae.

Female. Unknown.

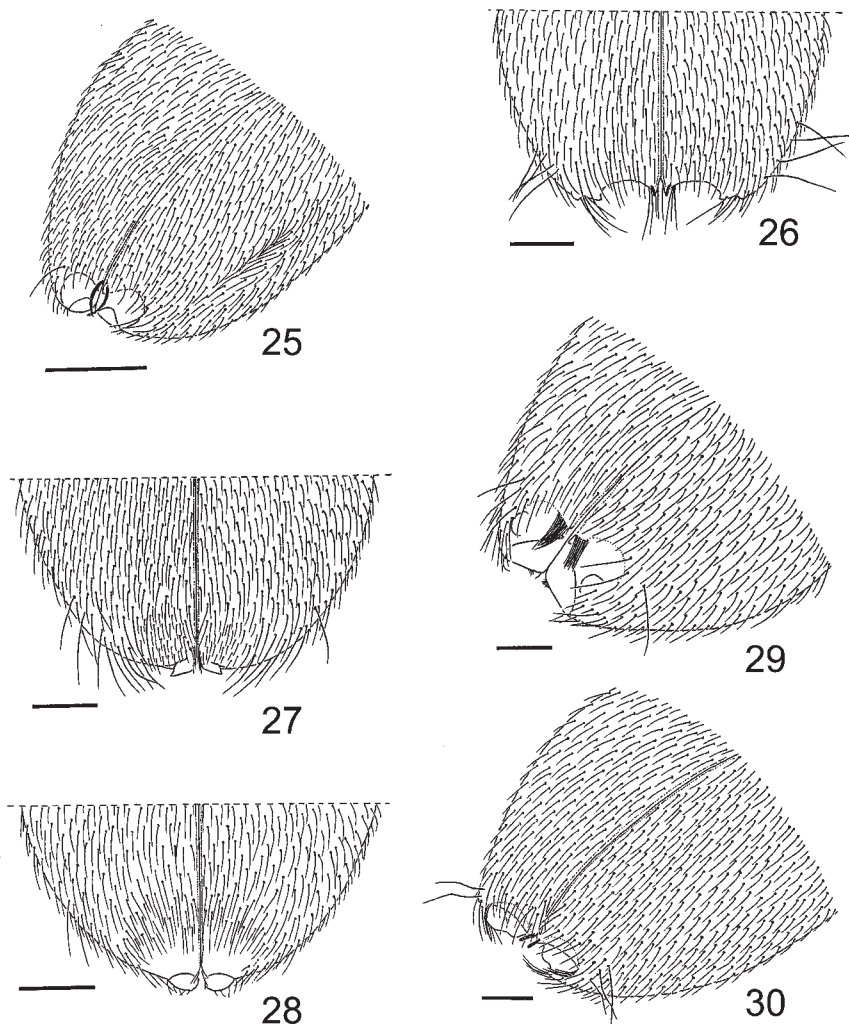
TYPE MATERIAL

Holotype (male): white printed label: "CHINA: W-Sichuan, 1999, Ya'an Prefecture, Tianquan Co., E Erlang Shan Pass, 2900 m, 9 km SE Luding, 29°52'N, 102°18'E, Ge-

siebe, 20. VI., leg. M. Schülke" and small green printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.



25-30. Posterior part of elytra, males (simplified). 25 – *Cephennodes uenoi* n. sp.; 26 – *C. scolytoides* n. sp.; 27 – *C. caudatus* n. sp.; 28 – *C. subcaudatus* n. sp.; 29 – *C. nigricollis* n. sp.; 30 – *C. baculifer* n. sp. (scale bars: 0.2 mm)

The *inflatipes*-group

This group is primarily defined by extremely small aedeagus (nearly 1/10 of the body length) representing the *simonis* type, which has very broad apical projection, with its apex pointing toward the apex of the median lobe; an additional character shared by all species is an odd broadening of the metatibiae in males. In some species also abdominal sternites (mostly II and III) are modified, with transverse carinae, which in lateral view look like ventrally projected teeth. Interestingly, a single species from China described previously, *C. spatulipes* JAŁOSZYŃSKI, has broadened metatibiae and abdominal sternites modified in a similar way as two out of three species newly described below. However, *C. spatulipes* has a completely different aedeagus, not similar to the shape that defines the *inflatipes* species group. Moreover, in further part of the present paper, a new species is described (*C. simplicipes*), which has the aedeagus typical for the *inflatipes* group, modified abdominal sternites II and III, but non-modified metatibiae. The group may need a broader definition to accommodate this apparently closely related species, which either lost the modification on the tibiae or retained the ancestral, non-modified condition. However, the present stage of study on the East Palearctic and Oriental cephenniines must be regarded as a very initial, with only a minor part of the existing biodiversity so far recorded. Therefore, the grouping followed here should be treated as a way to indicate some evolutionary trends that can be seen in the already known taxa, and it will certainly be refined in future.

Cephennodes (s. str.) *kopeipes* n. sp.

(Figs. 31-33, 40, 52)

NAME DERIVATION

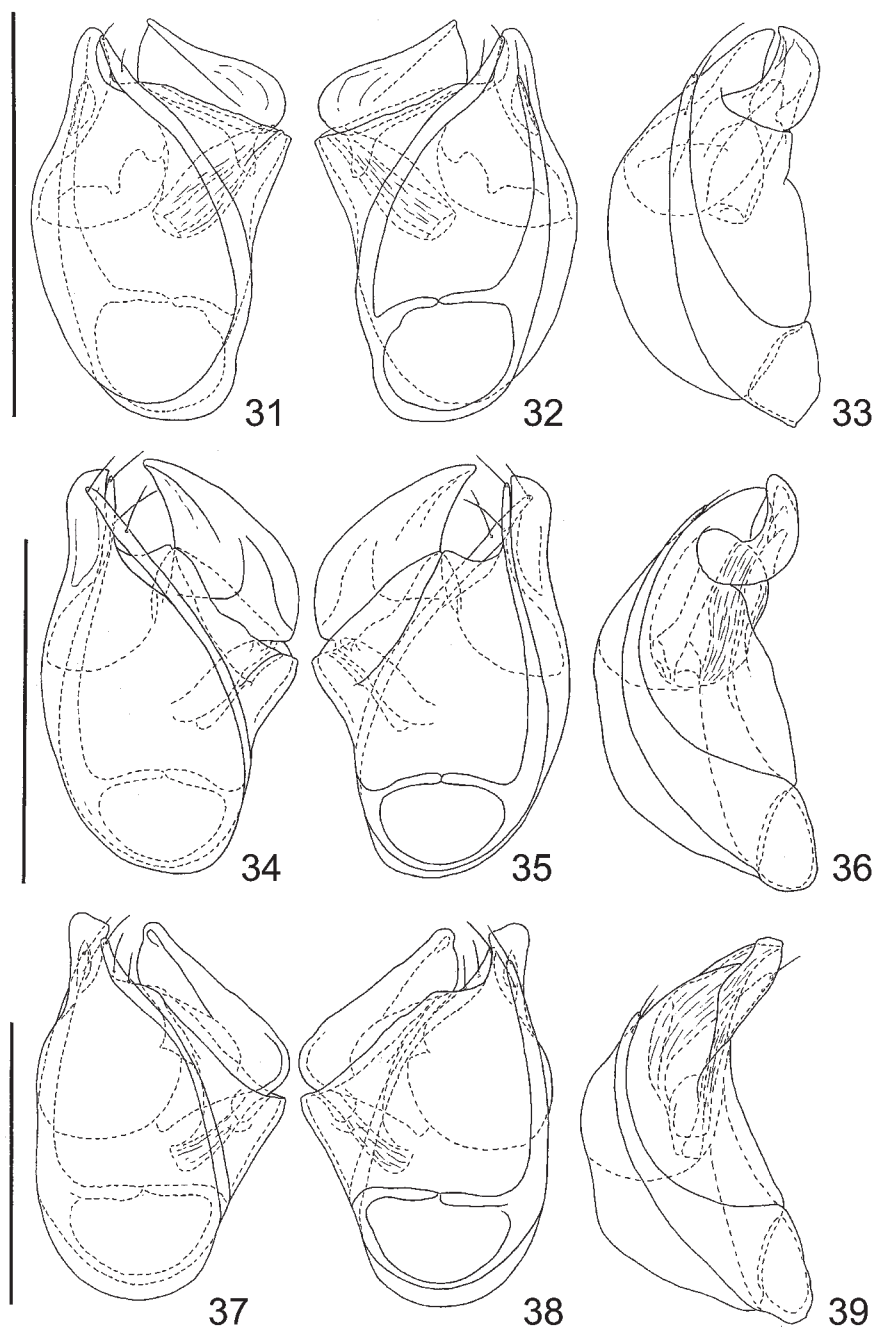
After Greek “kope”, meaning “oar”; the name refers to broadened apical parts of metatibiae.

DIAGNOSIS

Species belonging to the *inflatipes* group differ one from another in relatively subtle external characters, so the most certain diagnostic feature is the shape of the aedeagus; females can be identified only by direct comparison with males and only when collected in the same spot (provided the sample contains males of only one species of the group). Males of *Cephennodes kopeipes* differ from males of all very similar members of this lineage in the following characters: abdominal sternites non-modified; metatibiae with subtriangular subapical field of short and broad, very dense modified setae; apical projection of aedeagus very broad but short, its apex is clearly separated from apex of median lobe, and its apical margin is slightly slant in relation to the long axis of the aedeagus.

DESCRIPTION

Male (Fig. 52). Body very small, 1.06 mm in length, moderately convex, elongate, distinctly constricted between pronotum and elytra, moderately dark brown, covered



31-33. *Cephennodes kopeipes* n. sp.; 34-36. *Cephennodes abdominalis* n. sp.; 37-39. *Cephennodes parabdominalis* n. sp. Aedeagus in dorsal (31, 34, 37), ventral (32, 35, 38) and lateral (33, 36, 39) views (scale bars: 0.1 mm)

with yellowish setation. Head moderately large, length 0.15 mm, width 0.26 mm; vertex and frons regularly convex; supraantennal tubercles moderately large but very distinct; eyes large and strongly convex. Punctuation of frons and vertex very fine and sparse, barely noticeable under magnification 40x; setation relatively short and sparse, suberect. Antennae relatively short, with slender flagellum and relatively distinctly delimited, broad 5-segmented club, length of antenna 0.56 mm; antennomere I slightly less than 1.5x as long as broad; II distinctly narrower than I but nearly as long, about 1.8x as long as broad; III-VI subequal in length and width, each slightly narrower than II and much shorter, about as long as broad or minimally longer than broad; VII slightly broader than VI but not longer, about as long as broad; VIII distinctly broader but minimally (barely noticeably) shorter than VII, slightly broader than long; IX distinctly broader and longer than VIII, slightly broader than long; X about as long as IX but distinctly broader, much broader than long; XI yet broader, about as long as IX-X together.

Pronotum broadest between middle and posterior third, length 0.31 mm, width 0.50 mm, with very broad and only slightly rounded anterior margin, broadly rounded lateral margins and shallowly biemarginate posterior margin; hind angles distinctly obtuse; lateral ante-basal pits small and relatively sharply marked, nearly equally distant from posterior and lateral margins; lateral carinae very narrow, at base narrowly but clearly separated from lateral margins, anteriorly convergent with margins and fused with them shortly before middle. Punctuation very fine, hardly noticeable under magnification 40x; setation relatively sparse and short, only slightly suberect.

Elytra oval, slightly flattened in middle, broadest between middle and anterior third, length 0.60 mm, width 0.55 mm, EI 1.1. Subhumeral lines only as long as 0.3x length of elytra, carinate and nearly straight; apices of elytra separately rounded. Punctuation slightly more distinct than that on pronotum, composed of relatively dense, very small shallow punctures with very diffused margins; setation very similar to that on pronotum. Hind wings reduced, apparently non-functional, only slightly longer than elytra and very narrow.

Metasternum covered with very fine punctuation.

Legs moderately long and slender, with short and relatively thick tarsi, and strongly modified, broadened metatibiae (Fig. 40) bearing subapical field of very short and broad setae.

Aedeagus (Figs. 31-33) extremely small, 0.10 mm in length, *simonis* type, broad, median lobe strongly asymmetrical, with strongly projected, rounded apex; apical projection very broad and short, with apex pointing toward apex of median lobe and with its apical margin rounded, slant to long axis of aedeagus; parameres slender, but with very broad bases surrounding very large basal orifice.

Female. Unknown.

TYPE MATERIAL

Holotype (male): two white printed labels: "CHINA: Border Shaanxi-Sichuan (Daba Shan), pass 20 km SSE Zhenping, 1700-1800 m, 31°44'N, 109°35'E, 9. VII. 2001, leg. M. Schülke", and "young dry mixed forest, field edge, small creek valley, moss (sifted) [C01-07]" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, border between Shaanxi and Sichuan provinces.

Cephennodes (s. str.) abdominalis n. sp.

(Figs. 34-36, 42, 53)

NAME DERIVATION

The name refers to strongly modified abdominal sternites in males of this species.

DIAGNOSIS

Males of *C. abdominalis* can be distinguished from all similar species on the basis of the following combination of characters: metatibiae strongly broadened in posterior part, with small oval subapical field filled with modified setae; abdominal sternite II short and strongly projected ventrally in middle, in lateral view forming long subtriangular tooth, sternite III similarly modified, but in lateral view its ventrally projected part is longer and thinner than sternite II; apical sclerite of the aedeagus has strongly, nearly regularly curved apical margin. Female characters remain unknown.

DESCRIPTION

Male (Fig. 53). Body very small, 1.24 mm in length, moderately convex, elongate, with shallow constriction between pronotum and elytra, moderately light brown, covered with yellowish setation. Head moderately large, length 0.17 mm, width 0.27 mm; vertex and frons regularly rounded, vertex with pair of tiny tubercles; supraantennal tubercles small but distinct; eyes large and strongly convex. Punctuation on frons and vertex sparse, composed of small and shallow, but relatively distinct punctures separated by spaces 2-3x as long as puncture diameters; setation sparse, moderately short, suberect. Antennae moderately long and slender, 0.60 mm in length, with very indistinctly delimited, but relatively broad club composed of five terminal antennomeres; antennomere I about 1.2x as long as broad; II distinctly narrower than I but comparable in length, 1.8x as long as broad; III-VI subequal in length and width, each slightly narrower and much shorter than II, only slightly longer than broad; VII minimally broader and slightly longer than VI, about 1.1-1.2x as long as broad; VIII broader than VII but similar in length, about as long as broad; IX broader and longer than VIII, minimally broader than long; X larger than IX, slightly broader than long; XI slightly broader than X, minimally shorter than IX-X together.

Pronotum nearly subrectangular, broadest slightly anterior to middle, length 0.32 mm, width 0.52 mm. Anterior margin broad, rounded; lateral margins strongly rounded in anterior third, weakly, but regularly rounded in posterior half, slightly but distinctly convergent toward obtuse hind angles; posterior margin moderately deeply biemarginate; lateral ante-basal pits located slightly closer to lateral than to posterior margin; lateral carinae very narrow, not separated from margins. Punctuation very fine, punctures are small but sharply marked and noticeable under magnification 40x, on central part of disc separated by spaces 1.5-2x as long as puncture diameters, near front angles punctures are denser, but less distinct than those in middle; setation moderately dense, relatively short, suberect.

Elytra oval, elongate, broadest slightly anterior to middle, length 0.75 mm, width 0.57 mm, EI 1.3. Subhumeral lines as long as 0.33x length of elytra, carinate, very narrow; apices of elytra separately rounded. Punctuation about as dense as that on central part of pronotum, but composed of very shallow and diffused punctures; setation similar to that on pronotum but slightly longer and more erect. Hind wings well developed.

Metasternum covered with very fine, but relatively distinct, moderately dense punctures.

Legs moderately long and slender; mesotibiae distinctly recurved; metatibiae gradually broadening toward apices, each with oval subapical field of short and broad setae (nearly identical as those illustrated for *C. parabdormalis*).

Abdomen (Fig. 42) strongly modified; visible sternite II short and strongly projected ventrally, so that in lateral view it forms long, triangular tooth directed ventrally; sternite III similarly modified, but its ventral projection is longer than that of sternite II and in lateral view appears rod-like, not triangular.

Aedeagus (Figs. 34-36) very small, 0.12 mm in length, *simonis* type, broad; median lobe bottle-shaped, with strongly projected apical part, apical projection subtriangular, broad and short, with apex pointing toward apex of median lobe and apical margin rounded; parameres very slender but with very broad basal parts surrounding large basal orifice.

Female. Unknown.

TYPE MATERIAL

Holotype (male): three white printed labels: "CHINA: Border Shaanxi-Sichuan (Daba Shan), pass 20 km SSE Zhenping, 1700-1800 m, 31°44'N, 109°35'E, 12. VII. 2001, leg. M. Schülke, [C01-07C]", "mixed forest, small creek valley, moss, bark (sifted) [C01-11]", and "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, border between provinces Shaanxi and Sichuan.

Cephennodes (s. str.) parabdormalis n. sp.

(Figs. 37-39, 41, 43, 54)

NAME DERIVATION

This species has very similar modifications on hind legs and abdominal sternites as *C. abdominalis*, and the name was chosen to emphasize this similarity.

DIAGNOSIS

Males of this species bear the following unique characters: metatibiae strongly, gradually thickened toward apex and with oval subapical field of short and broad setae; abdominal sternite II relatively long, in lateral view expanded ventrally to form broad and low, subtriangular tooth, abdominal sternite III extremely projected ventrally, in lateral view visible as very long projection with proximal margin forming long and

very slender, pointed tooth, and distal margin also projected to form slightly rounded, nearly straight angle; aedeagus with very broad but very short apical projection, with its distal margin nearly straight and running at nearly 45° angle to the long axis of the aedeagus. Females can be identified only by direct comparison to males, preferably when collected together.

DESCRIPTION

Male (Fig. 54). Body very small, length 1.29-1.34 mm (mean 1.31 mm), relatively stout, with shallow constriction between pronotum and elytra, moderately convex, light brown, covered with yellowish setae. Head small, length 0.2 mm, width 0.28-0.30 mm (mean 0.29 mm). Vertex and frons regularly convex; supraantennal tubercles small but very distinct; eyes large, strongly convex. Punctuation on frons and vertex sparse and composed of very shallow, but distinct small and unevenly distributed punctures, most of them separated by spaces as long as 1.5-2x puncture diameters; setation sparse, short, suberect. Antennae relatively short, with slender flagellum and broad, indistinctly delimited club composed of 5 terminal antennomeres (however, antennomere VII is about as narrow as VI and can be counted as belonging to club only on the basis of its coarse microsculpture, similar as that on remaining distal antennomeres), length of antennae 0.60-0.62 mm (mean 0.61 mm); antennomere I only slightly longer than broad; II distinctly narrower and slightly longer than I, nearly twice as long as broad; III-VI subequal in length and width, each slightly narrower and much shorter than II, about as long as broad or minimally longer than broad; VII as narrow as VI but much longer, 1.7x as long as broad; VIII distinctly broader than VII but shorter, about as long as broad; IX broader and longer than VIII, about as long as broad; X yet larger, slightly broader than long; XI slightly broader than X, minimally (barely noticeably) shorter than IX-X together.

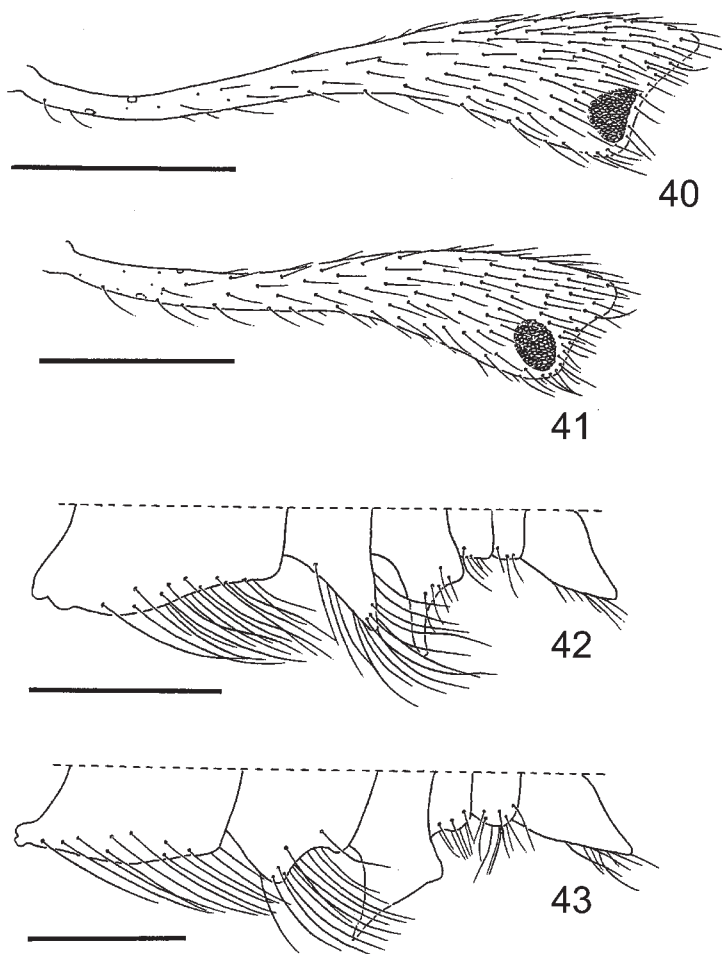
Pronotum nearly subrectangular with strongly rounded sides, broadest near anterior third, length 0.37-0.39 mm (mean 0.38 mm), width 0.53-0.55 mm (mean 0.54 mm). Anterior margin very broad, rounded; lateral margins strongly rounded in anterior third, in posterior half very weakly rounded and strongly convergent toward nearly straight hind angles; posterior margin shallowly biemarginate; lateral ante-basal pits very shallow and somewhat diffused, deepest place of each pit is located minimally closer to posterior than lateral margin or it is equally distant from both margins; lateral carinae very narrow, not separated from margins. Punctuation on central part of pronotum dense but very fine; very small and indistinct punctures are separated by spaces equal to 1.5-2x puncture diameters, punctures near each front angle and along lateral margins up to basal pits are denser and more distinct than those in middle; setation sparse, relatively short, suberect.

Elytra oval, slightly narrower than pronotum, broadest at anterior third or slightly before to anterior third, length 0.72-0.75 mm (mean 0.73 mm), width 0.55 mm, EI 1.31-1.36. Subhumeral lines slightly shorter than 0.3x length of elytra, with rounded edges; apices of elytra separately rounded. Punctuation as indistinct and fine as that on central part of pronotal disc; setation similar to that on pronotum, but slightly more erect, especially in anterior part of elytra. Hind wings well developed.

Metasternum covered with very fine punctures.

Legs moderately long and slender, mesotibiae slightly recurved, metatibiae (Fig. 41) gradually, strongly broadened toward apex, with oval subapical field bearing very dense, modified setae.

Abdominal sternites (Fig. 43) modified; visible sternite II long, in lateral view expanded ventrally to form broad and low, subtriangular tooth, abdominal sternite III very strongly projected ventrally, in lateral view visible as very long projection with both proximal and distal margins angulate, its proximal margin forms slender, pointed tooth, whereas distal margin forms nearly straight, slightly rounded angle.



40. *Cephennodes kopeipes* n. sp.; 41, 43. *Cephennodes parabdominalis* n. sp.; 42. *Cephennodes abdominalis* n. sp. Left metatibia of male in dorsal view (40, 41); ventral outline of abdominal sternites of male (schematic, setation of lateral parts of sternites omitted) in lateral view (42, 43) (scale bars: 0.1 mm)

Aedeagus (Figs. 37-39) very small, 0.14 mm in length, *simonis* type, broad; median lobe bottle-shaped, with strongly projected apical part, apical projection very broad and short, with rounded apex pointing toward apex of median lobe and apical margin nearly straight; parameres very slender but with very broad basal parts surrounding large basal orifice.

Female. Very similar to male, except for non-modified tibiae and abdominal sternites, and with partly reduced wings, which are about half as long as elytra; body slightly smaller. Body length 1.21-1.28 mm (mean 1.24 mm), length of head 0.17-0.18 mm (mean 0.17 mm), width of head 0.27-0.28 mm (mean 0.27 mm), length of antennae 0.60-0.65 mm (mean 0.62 mm), length of pronotum 0.37-0.38 mm (mean 0.37 mm), width of pronotum 0.55-0.60 mm (mean 0.56 mm), length of elytra 0.67-0.72 mm (mean 0.70 mm), width of elytra 0.54-0.57 mm (mean 0.56 mm), EI 1.24-1.26.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: Shaanxi, Qin Ling Shan, 110.06E, 34.27N, Hua Shan Mt. Valley, 1200-1400 m, 118 km E Xian, sifted, 18./20. 08. 1995, leg. M. Schülke" (temporarily in PCMS, final depository MNKB). Paratypes: 2 ♂♂, same data as for holotype; 10 ♀♀, same data as for holotype (paratypes in PCMS & PCPJ).

DISTRIBUTION

China, Shaanxi Prov.

REMARKS

Although male secondary sexual characters in *C. abdominalis* and *C. parabdrominalis* are very similar, the two species differ significantly in shape of the body, and can be easily distinguished at first sight. *Cephennodes abdominalis* is more slender and has the pronotum distinctly narrower than elytra, which in turn are broadest slightly anterior to middle, whereas *C. parabdrominalis* is distinctly more stout, with the pronotum broader than the elytra, and the elytra broadest near anterior third. The aedeagi are also clearly different, and *C. abdominalis* is known so far only from Daba Shan, whereas *C. parabdrominalis* from Qin Ling Shan.

The *impressifrons*-group

Members of this group share a similar shape of the large aedeagus, which is a strongly modified variant of the *simonis* type. The median lobe is very large and only slightly asymmetrical, not drop-shaped but oval and elongate, with relatively small dorsal membranous area concealed by the dorsal wall; the parameres are asymmetrical but in dorsal view only short apical part of the right paramere is located in front of the ventral wall; the generally short apical projections have ventral part forming a large ventral hook; and the subapical area of the ventral wall bears tiny setae. Males have modified frons and/or vertex, with variously shaped carinae and impressions. Aedeagi in this group are very similar one to another and modifications of the head in males

are more reliable characters to identify species. The group comprises three described species from China; one additional member is described below, but similar species are relatively common in Southeast and South Asia, and certainly more extensive sampling will increase known members of this interesting lineage.

Cephennodes (s. str.) pteroscopus n. sp.

(Figs. 44-47, 55)

NAME DERIVATION

The name refers to the modified scapus in males of this species, which bears a winglet-like projection (after the Greek *pteron*, a wing).

DIAGNOSIS

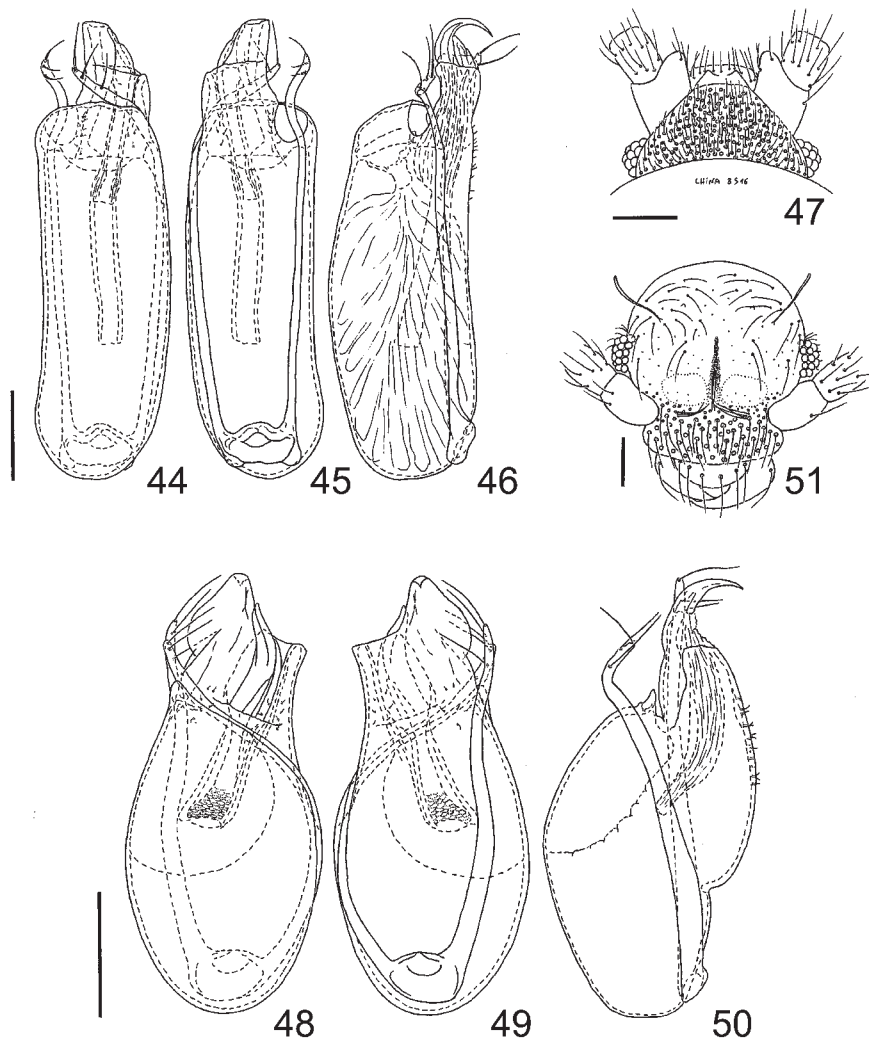
Males of this species bear unique modifications on the first antennomere and the head: internal dorsal angle of scapus is projected and forms a subtriangular tooth; frons is slightly concave and is separated from clypeus by transverse carina, whereas clypeus bears a pair of small subtriangular tubercles, well visible in dorsal and posterior view as tiny horns. Female characters remain unknown.

DESCRIPTION

Male (Fig. 55). Body relatively small, 1.49 mm in length, moderately strongly convex, elongate but with shallow constriction between pronotum and elytra, moderately light brown, with yellowish setation. Head (Fig. 47) small, length 0.22 mm, width 0.30 mm; vertex convex on sides and flattened in middle, median flattening expands anteriorly and forms very large, slightly impressed area on frons, which is separated from very convex clypeus by low but distinct transverse carina; supraantennal tubercles small and only slightly raised; clypeus with pair of small, elongate carinae or tubercles, which appear as tiny horns when seen from dorsal and slightly posterior view; eyes moderately large, strongly convex. Flattened and impressed median area on vertex and frons is covered with very dense, moderately large, sharply marked punctures separated by spaces as short as about half of puncture diameters, punctures in middle of frons are slightly larger than those around; setation sparse and short, suberect. Antennae relatively short but slender, with very indistinctly delimited, five-segmented club, length 0.77 mm; antennomere I very broad, with interior dorsal angle projected and forming rounded and flattened tooth, length of antennomere I excluding the tooth is about equal to width; antennomere II much narrower and shorter than I, about 1.2x as long as broad; III-VI subequal in length and width, each distinctly narrower and shorter than I, only slightly longer than broad; VII slightly broader and much longer than VI, about 1.7x as long as broad; VIII broader but much shorter than VII, only minimally longer than broad; IX broader and longer than VIII, about as long as broad; X yet larger, as long as broad; XI slightly broader than X, minimally shorter than IX-X together.

Pronotum subtrapezoidal in shape, broadest near middle, length 0.47 mm, width 0.67 mm. Anterior margin broadly rounded; lateral margins strongly rounded in anterior half, posteriorly nearly straight, very slightly convergent toward slightly obtuse hind

angles; posterior margin shallowly, but distinctly biemarginate; lateral ante-basal pits very small and shallow, located much closer to posterior than lateral margins; lateral carinae extremely narrow, not separated from margins. Punctuation on central part of pronotum dense and distinct, composed of small and moderately deep but sharply marked punctures separated by spaces about equal to puncture diameters or slightly longer, punctures in posterior part of pronotum are gradually smaller and shallower than those in middle and narrow area along posterior margin remains impunctate, punctures near each front angle are denser, but less distinct than those in middle. Setation moderately dense and short, suberect.



44-47. *Cephennodes pteroscapus* n. sp.; 48-51. *Cephennodes tauroides* n. sp. Aedeagus in dorsal (44, 48), ventral (45, 49) and lateral (46, 50) views; head of male in dorsal and slightly posterior (47) and anterior (51) views (scale bars: 0.1 mm)

Elytra oval, slightly more convex than pronotum, broadest between middle and anterior third, length 0.80 mm, width 0.75 mm, EI 1.07. Subhumeral lines as long as 0.3x length of elytra, carinate, very weakly curved; apices of elytra nearly rounded together. Punctuation sparser than that on central part of pronotum and composed of smaller, but sharply marked punctures; setation similar to that on pronotum but slightly longer and more erect. Hind wings entirely reduced.

Metasternum covered with fine but distinct punctures separated by spaces equal to or slightly longer than puncture diameters.

Legs moderately long and slender, without additional diagnostic characters.

Aedeagus (Figs. 44-46) 0.51 mm in length, strongly modified variant of *simonis* type; median lobe long and slender, slightly asymmetrical, with nearly subrectangular apical part and tiny setae on subapical region of ventral wall, apical projections short, with strongly curved ventral hook; parameres very slender, strongly asymmetrical, each with three setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): two white printed labels: "CHINA: W-Sichuan 1999, Ganzi Tibet Aut. Pref., Luding Co., Neben fluß des Dadu He, 5 km S Luding, 29°53N, 102°13E, 1250 m, 23. VI., leg. M. Schülke", and "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.

The *taurus*-group

Males of species belonging in this group share bizarre pair of very long bristles with thickened apices inserted on the vertex and directed anteriorly and dorsally, and modified frontoclypeal area; the aedeagus represents the *simonis* type, with the subapical area of the ventral wall bearing numerous tiny setae. Only a single species has been described so far (*C. taurus* JAŁOSZYŃSKI), another one is reported below. Similar species are not uncommon in Southeast Asia, and the group may appear to be quite large when properly studied.

Cephennodes (s. str.) *tauroides* n. sp.

(Figs. 48-51, 56)

NAME DERIVATION

This species has the same type of secondary sexual characters as apparently closely allied *C. taurus*, and the name "*tauroides*" refers to this resemblance.

DIAGNOSIS

Cephennodes tauroides differs from all similar congeners in male secondary sexual characters and the shape of its aedeagus. The head in males, besides the usual pair of

long and curved setae that are thickened toward apices and resemble horns, bears pair of shallow frontal impressions indistinctly separated in middle by narrow, finely punctate line provided with slender bunch of setae directed anteriorly; additionally sides of posterior part of clypeus adjacent to anterior margins of impressions bear long and curved setae directed toward middle. The aedeagus in lateral view has the ventral wall distinctly divided into short and weakly convex basal part and large, strongly convex distal part. Female characters remain unknown.

DESCRIPTION

Male (Fig. 56). Body moderately large, length 1.73-1.79 mm (mean 1.76 mm), oval and moderately elongate, with very shallow and weakly marked constriction between pronotum and elytra, dark brown or dark reddish-brown, covered with light brown or yellowish setation. Head large, length 0.25 mm, width 0.41-0.44 mm (mean 0.42 mm), structures of dorsal side as in Fig. 51. Antennae moderately long, relatively compact, length 0.85-0.92 mm (mean 0.89 mm), with five terminal antennomeres covered with slightly coarser microsculpture than basal part of antenna and forming very indistinctly delimited club; antennomere I slightly less than 1.5x as long as broad; II distinctly narrower and slightly longer than I, about 1.8x as long as broad; III-V subequal in width and length, each nearly subquadrate and distinctly narrower than II; VI minimally longer than V but similar in width; VII slightly broader and much longer than VI, about 1.2-1.3x as long as broad; VIII slightly broader but distinctly shorter than VII, only slightly longer than broad; IX distinctly broader and longer than VIII, slightly longer than broad; X yet larger, about as long as broad; XI distinctly broader than X, minimally shorter than IX-X together.

Pronotum nearly semicircular in shape, broadest near posterior third or nearly at base, length 0.51-0.54 mm (mean 0.52 mm), width 0.75-0.76 mm (mean 0.755 mm); anterior margin broadly rounded; lateral margins strongly rounded in anterior half, then weakly rounded or nearly straight, distinctly serrate; hind angles nearly straight; posterior margin moderately deeply biemarginate; lateral ante-basal pits small, located much closer to posterior than to lateral margins; lateral carinae narrow, not separated from margins. Punctuation on central part of pronotum dense and distinct, composed of small, sharply marked punctures separated by variable spaces, from slightly shorter than puncture diameters up to 3x as long, narrow area along posterior margin remains nearly impunctate, large area near each front angle bears punctures denser, but not larger than those in middle. Setation moderately long and dense, suberect.

Elytra oval, broadest near anterior third, length 0.97-1.00 mm (mean 0.99 mm), width 0.77-0.81 mm (mean 0.80 mm), EI 1.23-1.26. Subhumeral lines slightly longer than 0.3x length of elytra, distinctly carinate; apices of elytra separately rounded. Punctuation slightly sparser than that on central part of pronotum, but composed of much smaller, indistinctly marked punctures; setation similar to that on pronotum but distinctly longer and much more erect. Hind wings well developed.

Metasternum covered with very fine punctuation.

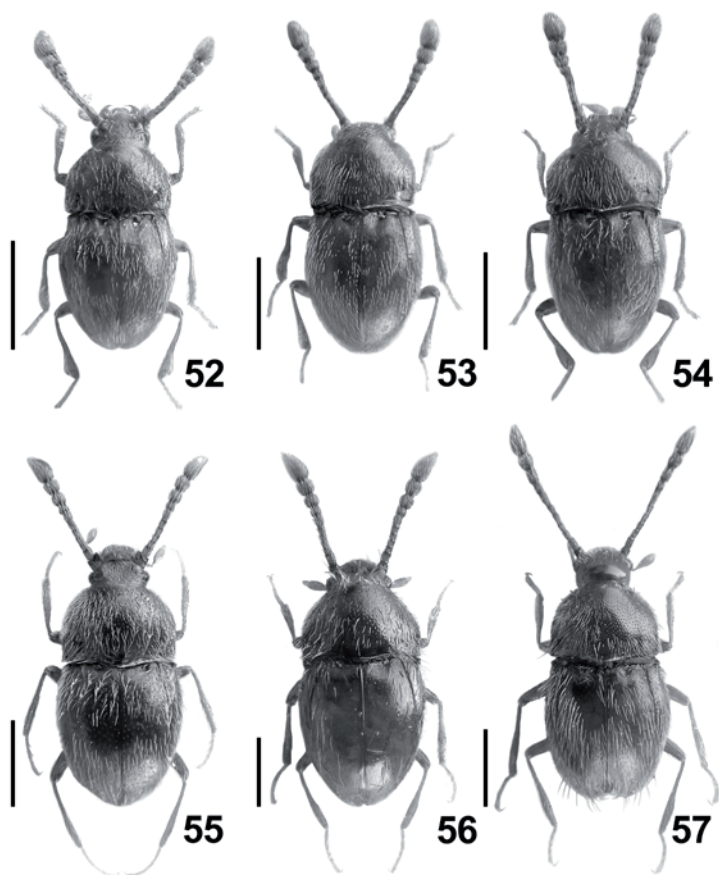
Legs moderately long and slender, without specific diagnostic characters.

Aedeagus (Figs. 48-50) 0.35 mm in length, *simonis* type, median lobe strongly asymmetrical, with projected, subtriangular and rounded apex, in lateral view ventral wall is divided into large and strongly convex distal part bearing short setae, and short, less convex basal part; apical projections broad, with strong ventral hook; parameres strongly asymmetrical, slender.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: C-Sichuan 1999, Wenjiang Distr., Dujiangyan Co., Qingcheng Shan, 975 m, 56 km NW Chengdu, 30°54N, 103°33E, Bachufer, Waldrest, 18. VI., leg. M. Schülke", and small green printed label: "Samm-



52-57. Dorsal aspect of male. 52 – *Cephennodes kopeipes* n. sp.; 53 – *C. abdominalis* n. sp.; 54 – *C. parabdormalis* n. sp.; 55 – *C. pteroscopus* n. sp.; 56 – *C. tauroides* n. sp.; 57 – *C. nematocerus* n. sp. (scale bars: 0.5 mm)

lung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB). Paratypes: 2 ♂♂, same data as for holotype; 1 ♂, white printed label: "CHINA: Sichuan (2), Qingcheng-Shan, Rückseite, 650-700 m, 30.53.56N, 103.33.01E, 18.05.1997, M. Schülke" (paratypes in MNKB and PCPJ).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

This species is similar to *C. taurus* JALOSZYŃSKI, but stable and distinct differences in external morphology and the shape of the aedeagus provide unambiguous diagnostic characters. The aedeagus is particularly interesting. It is certainly the *simonis* type and in dorso-ventral view is extremely similar to the copulatory organ of *C. taurus* (and several other, yet undescribed species from various parts of South and especially Southeast Asia sharing similar male secondary sexual characters). However, in lateral view it is clearly different, with the major part of the ventral wall strongly convex and expanded ventrally, sharply delimited from short and less convex basal part. A somehow similar condition was found in *C. yunnanensis* JALOSZYŃSKI, but that species has additionally modified basal part of the ventral wall, forming a subtriangular lobe separated from dorsal part of the median lobe by a deep invagination (JALOSZYŃSKI 2007). However, the aedeagus of *C. yunnanensis* lacks ventral setae, its median lobe is less asymmetrical than in the typical *simonis* type, and the apical projections are distinctly different than those in *C. taurus*. It was suggested that this kind of modification (i.e., a small basal part of the ventral lobe separated by an invagination) may represent an early step in formation of entirely separated subtriangular lobe attached to the base of parameres, so characteristic for some Eutheini (JALOSZYŃSKI 2007). If this hypothesis is correct, than the condition found in *C. tauioides* seems to be an intermediary form between the non-divided (but distinctly concave near base) ventral wall typical for majority of species with the *simonis* type aedeagus, and the distinctly divided wall that can be seen in *C. yunnanensis*.

The *longipes*-group

Members of the *longipes* species group have very stout and convex body, with the pronotum narrower than the elytra. The antennae and legs are unusually long and slender, the elytra in males are flattened around suture near apex or bear apical impressions. Additionally, two hitherto known species of this group (*C. longipes* and *C. penicillatus*), the new *C. nematocerus* described below, and several undescribed species known to the author from various localities in SE Asia have densely punctate heads and pronota. The aedeagus found in this lineage is similar to the *latus* type, it is typically broadest at base and narrowing toward apex, its dorsal membranous area is small and concealed by the dorsal wall of the median lobe, and the apical projections are asymmetrical and generally subtriangular in shape.

Cephennodes (s. str.) nematocerus n. sp.

(Figs. 57, 58-61)

NAME DERIVATION

The name refers to the unusually slender, thin antennae (after Greek *nema*, a thread).

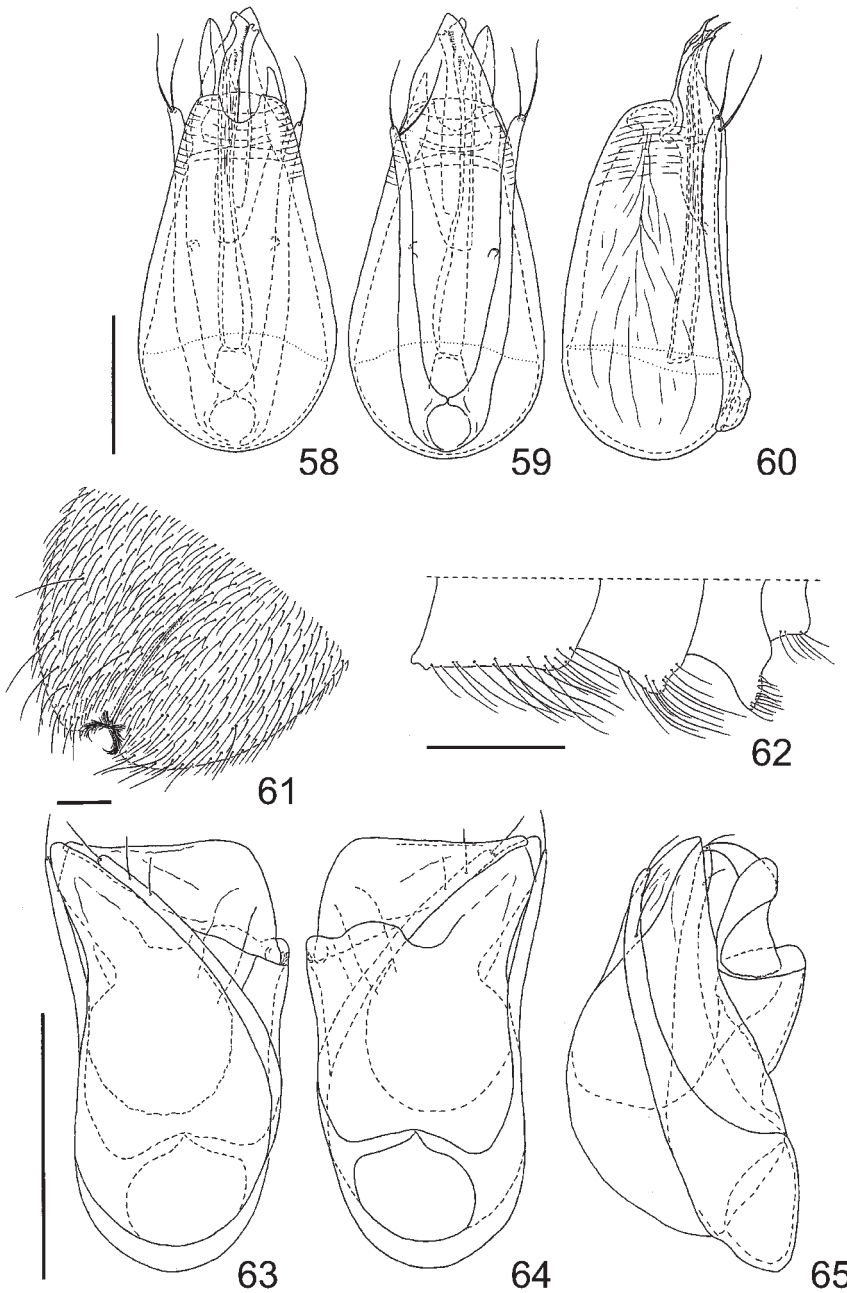
DIAGNOSIS

This species can be distinguished from all other members of the genus on the basis of unusually thin, slender antennae and unique modifications of the apices of elytra in males. Subapical and apical area on each elytron is flattened and bears broad, C-shaped bunch of strongly curved setae, each bunch is directed toward adsutural angle of elytra, so that setae intercross in middle; additionally flattened area is surrounded by sparse, very long setae directed posteriorly. Female characters remain unknown.

DESCRIPTION

Male (Fig. 57). Body moderately large, 1.57 mm in length, strongly convex, with relatively small pronotum and very broad elytra, moderately dark brown, covered with light brown or yellowish setation. Head moderately large, length 0.25 mm, width 0.35 mm; vertex and frons regularly convex, vertex with pair of very small tubercles; supraantennal tubercles small and indistinct, only slightly raised; eyes moderately large, strongly convex. Punctuation on frons and anterior part of vertex very dense, composed of small but sharply marked punctures becoming gradually shallower, smaller and sparser posteriorly; setation moderately long, relatively sparse, suberect. Antennae moderately long but very thin, slender, with five terminal antennomeres covered with fine, matt microsculpture and thus forming very indistinctly delimited, slender and relatively loose club; length of antenna 0.90 mm; antennomere I about 1.5x as long as broad; II distinctly narrower than I but comparable in length, about 1.8x as long as broad; III-IV subequal in width and length, each distinctly narrower than II, about 1.5x as long as broad; V-VI subequal in length and width, each as narrow as IV but distinctly longer, about twice as long as broad; VII slightly broader and much longer than VI, about 2.5x as long as broad; VIII about as broad as VII but much shorter, about 1.3x as long as broad; IX distinctly broader and much longer than VIII, twice as long as broad; X about as long as IX but distinctly broader, about 1.6x as long as broad; XI slightly broader than X, distinctly shorter than IX-X together.

Pronotum nearly subtrapezoidal in shape, broadest at base, length 0.50 mm, width 0.62 mm. Anterior margin broadly rounded; lateral margins strongly rounded in anterior third, in posterior third nearly straight; hind angles nearly straight; posterior margin shallowly biemarginate; lateral ante-basal pits shallow, located minimally closer to posterior than to lateral margins; lateral carinae narrow, not separated from margins. Punctuation on central part of pronotum covered with very small but sharply marked and distinct punctures separated by variable spaces, from about equal to puncture diameters to (rarely) up to twice as long, narrow area along posterior margin remains nearly impunctate, punctures near to each front angle and along lateral margins are



58-61. *Cephennodes nematocerus* n. sp.; 62-65. *Cephennodes simplicipes* n. sp. Aedeagus in dorsal (58, 63), ventral (59, 64) and lateral (60, 65) views; posterior part of elytra of male (61); ventral outline of abdominal sternites I-IV of male (schematic, setation of lateral parts of sternites omitted) in lateral view (62) (scale bars: 58-60, 62-65 – 0.1 mm; 61 – 0.2 mm)

denser and much larger than those in middle; setation moderately dense and long, suberect, additionally lateral margins bear two pairs of long setae directed laterally and posteriorly, one near middle and the other one near hind angle.

Elytra broad and stout, more convex than pronotum, broadest distinctly anterior to middle, length 0.82 mm, width 0.75 mm, EI 1.1. Subhumeral lines as long as 0.4x length of elytra, distinctly carinate; apices of elytra with broad flattening. Punctuation sparser than on central part of pronotum, composed of slightly smaller and shallower, less distinctly marked punctures; basic setation about as dense as that on pronotum but much longer and more erect, additionally apical flattening is covered with very short, dense suberect or nearly recumbent setae and surrounded anteriorly and laterally by sparse, very long and strongly erect setae, flattened area on each elytron is provided with broad, ribbon-like, C-shaped bunch of very long setae inserted near suture and directed toward the other elytron so that setae intercross over suture (Fig. 61). Hind wings well developed.

Metasternum covered with very fine, sparse punctures.

Legs very long and slender, without additional diagnostic characters.

Aedeagus (Figs. 58-60) mm in length, variant of *latus* type, median lobe symmetrical, broad at base and strongly narrowing toward apex, its dorsal apical margin bears deep, rounded notch; apical complex of sclerites subtriangular in shape, in lateral view with two small, slender hook-like projections; parameres slightly asymmetrical, unequal in length, each with two setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: Sichuan (2), Quingcheng-shan, Rückseite, 650-700 m, 30.53.56N, 103.33.01E, 18.05.1997, M. Schülke" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

The aedeagus of *C. nematocerus* is extremely similar to that of *C. longipes*, but it is distinctly stouter, its median lobe has broader notch in the apical part of the dorsal wall, and ventral apical projections have different shape. The two apparently closely allied species differ significantly in the general body shape, convexity and length, as well as in details of male secondary sexual characters. *Cephennodes longipes* is distinctly larger and more convex, covered with much shorter and denser setation, and has larger, denser punctures on dorsal surface of the body than *C. nematocerus*. Males of the former species bear large apical impression on each elytron delimited posteriorly by transverse convexity, whereas flattened apices of the elytra in males of *C. nematocerus* bear ribbon-like bunches of strongly curved setae.

Species of *Cephennodes* s. str. not placed in any group***Cephennodes* (s. str.) *simplicipes* n. sp.**

(Figs. 62-65, 69)

NAME DERIVATION

The name refers to non-modified metatibiae in males of this species, otherwise very similar to members of the *inflatipes* complex, in which males have broadened hind tibiae.

DIAGNOSIS

Males of this species can be distinguished from similar congeners by combination of modified abdominal sternites II and III (in lateral view, sternite II is slightly projected ventrally, whereas sternite III is strongly projected and forms subtriangular tooth directed ventrally) with non-modified metatibiae (broadened in all known species with similarly modified abdomen). The very broad but short apical projection of the aedeagus with its distal margin transverse to the long axis of the aedeagus is also unique for this species. Females and their diagnostic characters remain unknown.

DESCRIPTION

Male (Fig. 69). Body very small, 1.19 mm in length, oval, moderately convex, with distinct but shallow constriction between pronotum and elytra, moderately light brown, covered with yellowish setation. Head relatively small, length 0.17 mm, width 0.29 mm; vertex and frons regularly convex; supraantennal tubercles distinctly raised; eyes moderately large, strongly convex. Punctuation of frons and vertex sparse, composed of unevenly distributed, small and shallow punctures; setation sparse and moderately long, suberect. Antennae relatively short, 0.55 mm in length, with slender but compact flagellum and indistinctly delimited, but broad club composed of five terminal antennomeres; antennomere I about 1.2x as long as broad; II distinctly narrower than I but comparable in length, about 1.7x as long as broad; III slightly narrower and much shorter than II, slightly longer than broad; IV-VI equal in length and width, each as narrow as III but slightly shorter, as long as broad; VII slightly broader and longer than VI, about 1.2x as long as broad; VIII slightly broader but shorter than VII, slightly broader than long; IX distinctly broader and longer than VIII, distinctly broader than long; X yet larger, slightly broader than long; XI slightly broader than X, about as long as IX-X together.

Pronotum nearly semicircular in shape, broadest between middle and anterior third, length 0.32 mm, width 0.52 mm. Anterior margin broadly rounded; lateral margins strongly rounded in anterior third, weakly rounded in posterior half, slightly convergent toward nearly straight hind angles; posterior margin moderately deeply biemarginate; lateral ante-basal pits very small and relatively sharply delimited, located closer to posterior than to lateral margins; lateral carinae narrow, not separated from margins. Punctuation very fine, barely noticeable under magnification 40x; setation relatively short, moderately dense, only slightly suberect.

Elytra oval, broadest near anterior third, length 0.70 mm, width 0.57 mm, EI 1.23. Subhumeral lines short, equal to 0.2x length of elytra, straight, forming rather sharp border between strongly convex humeral and less convex subhumeral region than carinae; apices of elytra separately rounded. Punctuation more distinct than that on pronotum and relatively dense, but composed of very shallow and diffused punctures; setation similar to that on pronotum but slightly longer and more erect. Hind wings entirely reduced.

Metasternum covered with very fine, unremarkable punctuation.

Legs moderately long and slender, without peculiar characters.

Abdomen with modified visible sternites II and III (Fig. 62); in lateral view sternite II forms broad and relatively short tooth; sternite III is more strongly projected ventrally and forms relatively narrow tooth with rounded margins.

Aedeagus (Figs. 63-65) very small, 0.16 mm in length, *simonis* type, relatively slender, median lobe with strongly projected, subtriangular and rounded apex; apical projection very broad, with apex adjacent to apex of median lobe, its margin is rapidly bent at obtuse angle, with apical part transverse to long axis of aedeagus; parameres slender, but with very broad basal parts surrounding very large basal orifice.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: W-Sichuan 1999, Ganzi Tibet Aut. Pref., Yajiang Co., Shalui Shan, Bachtal 6 km WSW Yajiang, 3250 m, 30°01'N, 100°57'E, Laubstreu, Rinde, Pilze {i.e., leaf litter, bark, fungi}, 4. VII., leg. M. Schülke", and small green printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

This species is very close to members of the *inflatipes* group, sharing with them such characters as very small body and extremely small aedeagus with broad apical projection directed toward apex of the dorsal wall of the median lobe. Also modified abdominal sternites can be found in some members of that lineage. However, *C. simplicipes* has non-modified metatibiae, which are typical for the *inflatipes* species group. Nevertheless, *C. simplicipes* seems to be closely related to species with modified abdominal sternites II and III, so far known only in the *inflatipes* group. See also remarks for the *inflatipes* group given in previous parts of this paper.

***Cephennodes* (s. str.) *sichuanus* n. sp.**

(Figs. 66-68, 70)

NAME DERIVATION

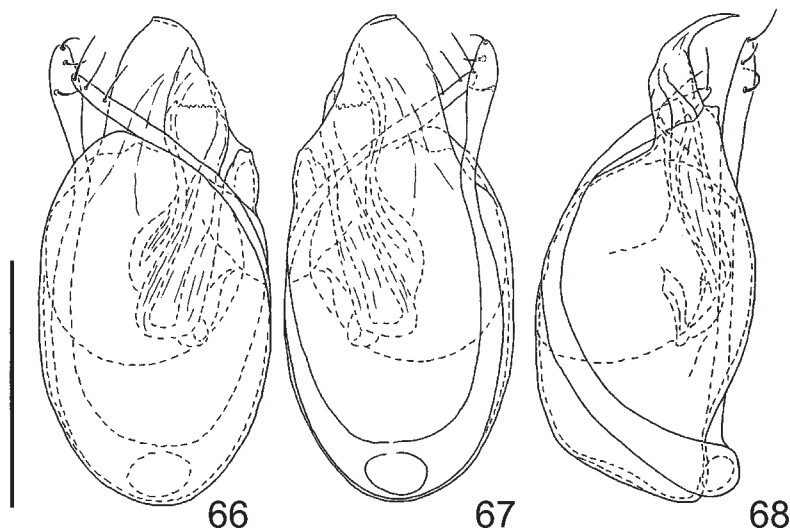
Locotypical, after the Chinese province of Sichuan.

DIAGNOSIS

The following combination of characters can be used to distinguished this species from similarly very small and unremarkable congeners: two terminal antennomeres strikingly large; frons with indistinct and only slightly raised median tubercle; subhumeral lines on elytra very short; punctation on pronotum fine but distinct, punctation on elytra indistinct; aedeagus of the *simonis* type, with moderately asymmetrical median lobe and strongly broadened apical part of one of parameres (the less asymmetrical one, left in dorsal view). Female characters remain unknown.

DESCRIPTION

Male (Fig. 70). Body very small, 1.24-1.27 mm in length (mean 1.25 mm), moderately convex, relatively elongate and compact, with shallow constriction between pronotum and elytra, moderately dark brown, covered with yellowish setation. Head moderately large, length 0.20 mm, width 0.28 mm; vertex convex, with pair of very small tubercles; frons convex, with indistinct and only slightly raised median tubercle; supraantennal tubercles indistinctly marked; eyes moderately large, strongly convex. Punctuation distinct but composed of shallow and small punctures with diffused margins, on frons separated by spaces equal to or shorter than puncture diameters, punctures on vertex are sparser; setation moderately long and dense, suberect. Antennae moderately long (length 0.57 mm), with very slender proximal part and relatively broad club composed of four terminal segments (antennomere VII is as narrow as VI and hardly can be included into club), with particularly broad antennomeres X-XI; antennomere I about twice as long as broad; II much shorter and narrower than I, about 1.7x as long as broad; III-VI subequal in length and width, each distinctly narrower and much shorter than II, about 1.2x as long as broad; VII as narrow as VI but distinctly longer, about



66-68. *Cephennodes sichuanus* n. sp. Aedeagus in dorsal (66), ventral (67) and lateral (68) views (scale bar: 0.1 mm)

1.7-1.8x as long as broad; VIII distinctly broader than VII but shorter, only slightly longer than broad; IX distinctly broader and longer than VIII, only slightly longer than broad; X much larger than IX, about as broad as long; XI yet broader, about as long as IX-X together.

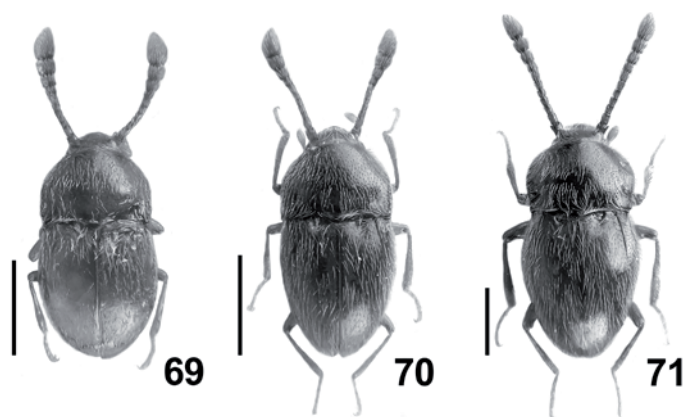
Pronotum approximately subtrapezoidal in shape, broadest near middle, length 0.37 mm, width 0.52-0.54 mm (mean 0.53 mm). Anterior margin broadly rounded; lateral margins strongly rounded in anterior half and only slightly rounded in posterior part, where sides are slightly narrowed toward sharp hind angles, serration of lateral margins is very indistinct; posterior margin moderately deeply biemarginate; lateral ante-basal pits shallow, about equally distant from posterior and lateral margins; lateral carinae narrow, not separated from margins. Punctuation relatively dense and distinct, but composed of small, sharply marked punctures in central part of disc separated by spaces about 1.5x as long as puncture diameters, on area adjacent to each front angle punctures are distinctly denser; setation moderately short and dense, only slightly suberect.

Elytra oval, broadest between middle and anterior third, relatively strongly narrowing from widest place toward apices, length 0.67-0.70 mm (mean 0.68 mm), width 0.54-0.55 mm (mean 0.54 mm), EI 1.24-1.27. Subhumeral lines as long as 0.3x length of elytra, non-carinate but rather marked as sharp border between raised humeral and less convex subhumeral region of each elytron; apices of elytra separately rounded. Punctuation about as dense as that on central part of pronotum but punctures are smaller, shallower and much less distinct; setation similar to that on pronotum but slightly longer and more erect. Hind wings well developed.

Metasternum covered with small and shallow, but distinct punctures separated by spaces comparable to puncture diameters.

Legs moderately long and slender, without peculiar characters.

Aedeagus (Figs. 66-68) 0.20 mm in length, *simonis* type, median lobe moderately asymmetrical, oval, with only slightly expanded, broadly subtriangular apex; apical



69-71. Dorsal aspect of male. 69 – *Cephennodes simplicipes* n. sp.; 70 – *C. sichuanus* n. sp.; 71 – *C. lustrifrons* n. sp. (scale bars: 0.5 mm)

projections subtriangular, in lateral view with strong ventral apical hook; one paramere with distinctly broadened apical part.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label "CHINA: Sichuan (2), Quingcheng-Shan, Rückseite, 650-700 m, 30.53.56N, 103.33.01E, 18.05.1997, M. Schülke" (temporarily in PCMS, final depository MNKB). Paratype: 1 ♂, same data as for holotype (PCPJ).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

Morphology of this species is very unremarkable, including somehow generalized shape of the aedeagus. Certain identification requires careful examination of external morphology and the aedeagus, the most reliable character being combination of small and rather indistinct frontal tubercle with oval median lobe of the aedeagus and strongly broadened apical part of one paramere. *Cephennodes sichuanus* is also a good example of considerable variability in the shape of antennae within the genus. The aedeagus of this species is almost "classical" *simonis* type, but the antennomere VII is so narrow that the antennal club appears to be composed of only four antennomeres, with very broad two terminal segments strongly contrasting with slender and not particularly compact flagellum. In contrast, *C. simonis* (the type species of the genus) has antennae very compact, with nearly subquadrate flagellomeres and indistinctly delimited five-segmented club (the diagnostic value of these characters was discussed in JALOSZYŃSKI 2007).

Subgenus *Fusionodes* JALOSZYŃSKI

This subgenus was defined entirely by characters of the aedeagus: the parameres symmetrical, at least partly (in some cases entirely) fused to median lobe, so that usually only very short apical parts are recognizable; the median lobe symmetrical or only slightly asymmetrical, with the ventral orifice located near middle (not at base, as in *Cephennodes* s. str.). Several new species described below provide interesting insight into the process of reduction of the parameres, with examples of relatively long part of parameres still free and only short basal part fused to the lateral wall of the median lobe. No modifications of the head, legs or elytra in males have so far been found in this group; the only known secondary male sexual character is a small median tubercle on the metasternum of *C. malleiphallus* JALOSZYŃSKI.

The *graeseri*-group

Species in this group have very similar aedeagi, with uniquely shaped, very large apical complex composed of slightly or moderately asymmetrical, shield-like lobes.

Most members of this lineage are also relatively large, and usually they have antennae that can be best described as gradually thickened toward apex, even if five terminal antennomeres are covered with matt microsculpture, different from relatively smooth surface of the remaining antennomeres. The previously described three species are distributed in the Russian Far East and Korea (*C. graeseri*), and China (*C. testudo* and *C. schuelkei*). One additional species has been found in Shaanxi.

***Cephennodes (Fusionodes) lustrifrons* n. sp.**

(Figs. 71, 72-74)

NAME DERIVATION

The name refers to glossy, impunctate area on the frons.

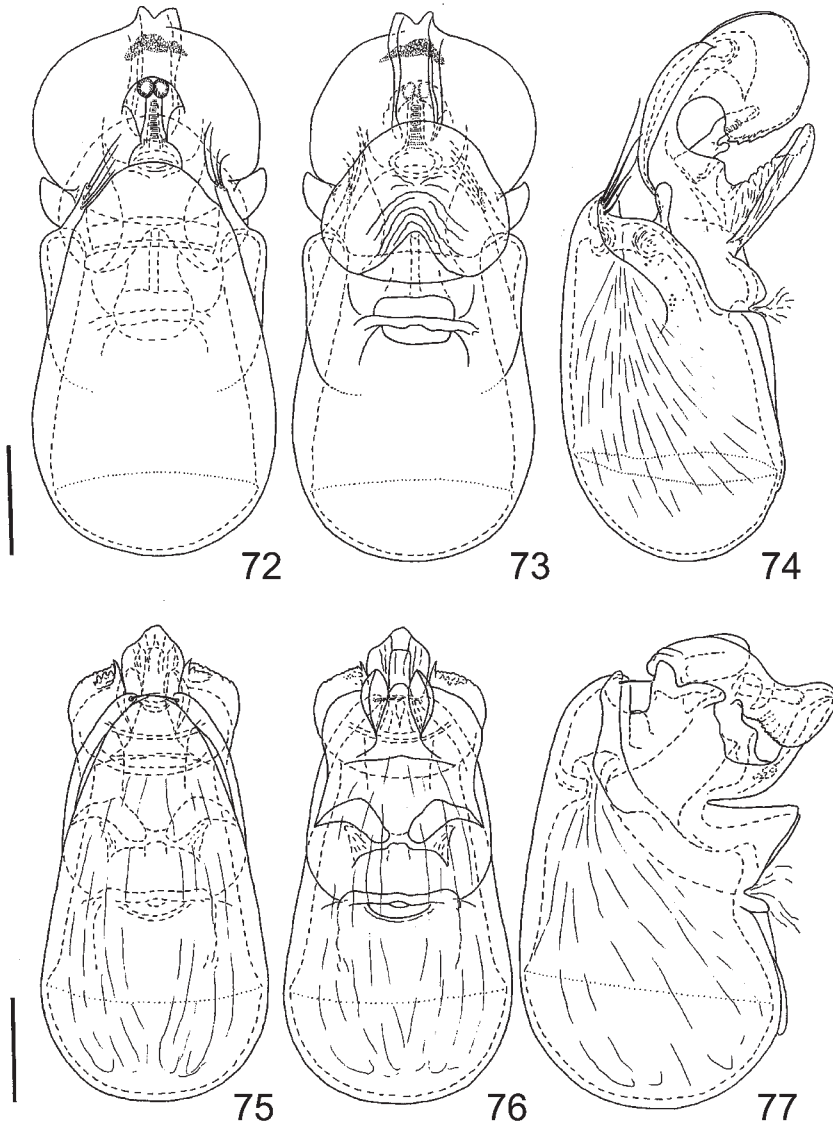
DIAGNOSIS

All members of this species group are externally relatively unremarkable and primary diagnostic characters are those of the aedeagus. The aedeagus of *C. lustrifrons* differs from all allied species in the size of its ventral subapical projection, which in ventral view is inversely heart-shaped and extremely large, occupying nearly entire width of the median lobe. Relatively large glossy and impunctate median area on the frons and pronotum broadest near middle and strongly narrowing from the broadest place toward obtuse hind angles can be used for preliminary identification, but it must be confirmed by examination of the aedeagus. Females can be identified only by direct comparison to males, preferably when collected together.

DESCRIPTION

Male (Fig. 71). Body large, moderately convex, with distinct constriction between pronotum and elytra, dark brown, length 1.79-1.86 mm (mean 1.85 mm), setation light brown. Head moderately large, length 0.26 mm, width 0.40 mm; vertex and frons regularly convex, vertex with pair of barely noticeable tubercles; supraantennal tubercles large, distinct and strongly raised; eyes large, strongly convex. Punctuation on median anterior part of frons sparse, composed of several small but sharply marked punctures separated by spaces 1.5-2x as long as puncture diameters, clypeus and elongate median posterior part of frons as well as median part of vertex impunctate, very glossy, sides of vertex are covered with very small and sparse punctures, posteriorly becoming smaller and indistinct; setation sparse and long, suberect, impunctate part of frons and vertex are devoid of setae. Antennae moderately long and slender, moderately compact, with five terminal antennomeres covered with more coarse microsculpture than basal part of antenna, but antennae can be better characterized as gradually thickened toward apex than with distinct club; length of antennae 0.97-1.00 mm (mean 0.99 mm); antennomere I about 1.3x as long as broad; II about as long as I but distinctly narrower, about 1.6x as long as broad; III distinctly narrower and shorter than II, about 1.5x as long as broad; IV-V subequal in length and width, each as narrow as II but slightly shorter, about 1.2-1.3x as long as broad; VI as narrow as V but slightly longer; VII slightly broader and longer than VI, about 1.2x as long as broad; VIII broader but minimally

shorter than VII, about as long as broad or only minimally longer than broad; IX broader and longer than VIII, slightly longer than broad; X longer and broader than IX, slightly longer than broad; XI slightly broader than X, about as long as IX-X together or minimally (barely noticeably) shorter.



72-74. *Cephennodes lustrifrons* n. sp.; 75-77. *Cephennodes serratus* n. sp. Aedeagus in dorsal (72, 75), ventral (73, 76) and lateral (74, 77) views (scale bars: 0.1 mm)

Pronotum approximately subtrapezoidal in shape, broadest near middle, length 0.53-0.55 mm (mean 0.54 mm), width 0.76-0.80 mm (mean 0.78 mm). Anterior margin broadly rounded; lateral margins strongly rounded in anterior half, then less, but still regularly convex up to shortly before obtuse hind angles, where lateral margins are very shallowly S-shaped; posterior margin very shallowly biemarginate; lateral ante-basal pits shallow, located very close to lateral margins, much closer than to posterior margin of pronotum; lateral carinae narrow, not separated from margins. Punctuation on central part of pronotum fine and dense, composed of very small but sharply marked punctures separated by spaces 1-2x as long as puncture diameters, narrow area along posterior margin remains impunctate, punctures covering area adjacent to each front angle and protruding posteriorly to ante-basal pits are slightly larger than those in middle but diffused. Setation relatively short, moderately dense, only slightly suberect.

Elytra oval, broadest near anterior third, length 1.00-1.05 mm (mean 1.055 mm), width 0.82-0.90 mm (mean 0.86 mm), EI 1.17-1.22. Subhumeral lines as long as 0.33x length of elytra, distinctly carinate, very weakly curved; apices of elytra separately rounded. Punctuation slightly sparser than that on central part of pronotum and composed of smaller, indistinct punctures; setation similar to that on pronotum but slightly longer and more suberect. Hind wings reduced, apparently non-functional, shorter than elytra.

Metasternum covered with very fine punctures.

Legs moderately long and slender, without peculiar characters.

Aedeagus (Figs. 72-74) 0.51 mm in length, typical *graeseri*-type, with very large shield-like apical part, huge, subtriangular projection of ventral wall located at base of apical sclerites, and parameres with well discernable margins, but broadly fused with median lobe.

Female. Very similar to male, wingless. Body length 1.82 mm, length of head 0.25 mm, width of head 0.40 mm, length of antennae 0.97 mm, length of pronotum 0.55 mm, width of pronotum 0.79 mm, length of elytra 1.02 mm, width of elytra 0.85 mm, EI 1.2.

TYPE MATERIAL

Holotype (male): three white printed labels: "CHINA: S-Shaanxi (Daba Shan), mountain range N pass 22 km NW Zhenping, N-slope, 32°01'N, 109°21'E, 2400 m, 13. VII. 2001, leg. M. Schülke, (C01-11)", "mixed forest (Pinus, Salix and other deciduous trees), (sifted) [C01-11]", and "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB). Paratypes: 1 ♂, 1 ♀, same data as for holotype (PCMS, PCPJ).

DISTRIBUTION

China, Shaanxi Prov.

Species of subgen. *Fusionodes* not placed in any group***Cephennodes (Fusionodes) serratus* n. sp.**

(Figs. 75-77, 93)

NAME DERIVATION

The species name refers to distinctly serrate lateral margins of pronotum.

DIAGNOSIS

This species can be unambiguously identified only on the basis of structures of the male copulatory organ, which has a unique pair of very large, in lateral view triangular “fins” on the ventral wall; determination of females is possible only by direct comparison with males collected from the same spot.

DESCRIPTION

Male (Fig. 93). Body length 1.82-1.84 mm (mean 1.83 mm); body relatively large, moderately convex, with relatively shallow constriction between pronotum and elytra, moderately dark brown and covered with yellowish or light brown setation. Head moderately large, length 0.27-0.29 mm (mean 0.28 mm), width 0.47 mm; vertex and frons regularly convex, vertex with pair of very small tubercles; supraantennal tubercles distinctly marked but only slightly raised; eyes large and strongly convex. Punctuation on frontoclypeal area distinct and dense, composed of moderately large punctures separated by variable spaces, mostly 1-2x as long as puncture diameters, punctures become rapidly smaller and sparser in posterior part of frons and vertex is covered with very fine and sparse punctuation barely visible under magnification 40x; setation relatively sparse, moderately long, suberect. Antennae moderately long and slender, with very indistinctly delimited, slender and 5-segmented club, but antennomere VII is nearly as narrow as VI, so that club appears 4-segmented, length of antennae 0.95 mm; antennomere I nearly twice as long as broad; II distinctly narrower and shorter than I, about twice as long as broad; III-VI subequal in length and width, each much shorter and slightly narrower than II, only slightly longer than broad; VII much longer than VI but comparably narrow, about 1.8x as long as broad; VIII distinctly broader but much shorter than VII, only slightly longer than broad; IX distinctly longer and broader than VIII, about as long as broad; X yet larger, about as long as broad; XI slightly broader than X, about as long as IX-X together.

Pronotum subrectangular in shape, broadest between middle and anterior third, length 0.55 mm, width 0.76-0.78 mm (mean 0.77 mm). Anterior margin broadly rounded; lateral margins very distinctly serrate from front up to hind angles, rounded in anterior third, in posterior half nearly straight, from widest place distinctly convergent toward moderately sharp hind angles; posterior margin moderately deeply biemarginate; lateral ante-basal pits large and relatively deep, located distinctly closer to lateral than to posterior margin; lateral carinae very narrow and not separated from margins. Punctuation on central part of pronotum composed of very small but sharply marked punctures separated by variable spaces, mostly 1-2x as long as puncture diameters,

relatively large area along lateral margins expanded slightly toward middle near each front angle bears much more dense punctures, which are small and shallow, but have slightly raised and diffused margins, so that surface appears slightly coarse; setation moderately dense, relatively short, nearly recumbent.

Elytra oval, broadest between middle and anterior third, relatively strongly narrowing posteriorly from widest place, length 1.00 mm; width 0.85 mm; EI 1.17. Subhumeral lines slightly shorter than 0.3x length of elytra, distinctly carinate; apices of elytra separately rounded. Punctuation similar to that on central part of pronotum but punctures are more diffused and less distinct; setation nearly identical as that on pronotum. Hind wings entirely reduced.

Metasternum extremely finely and sparsely punctate.

Legs moderately long and slender, without additional diagnostic characters.

Aedeagus (Figs. 75-77) 0.47 mm in length, very stout, with short apical projections and relatively long free parts of parameres; apical projections in dorso-ventral view are composed of broad lateral lobes and slightly asymmetrical, small median structure between them; ventral wall of median lobe bears pair of very large, in lateral view triangular "fins".

Female. Externally indistinguishable from males, wingless. Body length 1.67-1.84 mm (mean 1.75 mm), length of head 0.25-0.27 mm (mean 0.26 mm), width of head 0.37-0.45 mm (mean 0.41 mm), length of antennae 0.80-0.92 mm (mean 0.86 mm), length of pronotum 0.52-0.55 mm (mean 0.53 mm), width of pronotum 0.72-0.82 mm (mean 0.77 mm), length of elytra 0.90-1.02 mm (mean 0.96 mm), width of elytra 0.75-0.92 mm (mean 0.83 mm), EI 1.11-1.2.

TYPE MATERIAL

Holotype (male): two white printed labels: "CHINA: W-Sichuan, 1999, Ya'an Prefecture, Tianquan Co., E Erlang Shan Pass, 2900 m, 9 km SE Luding, 29°52'N, 102°18'E, Gesiebe, 22. VI., leg. M. Schülke" and "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB). Paratypes: 1 ♂, 2 ♀♀, same data as for holotype, except that one paratype female bears not white but green label "Sammlung M. Schülke, Berlin" (PCMS, PCPJ).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

Lateral margins of the pronotum with distinct serration running from front up to hind angles characteristic for males and females of *C. serratus* are rare within the genus. However, many species of *Fusionodes* are very similar one to another or nearly identical externally, and morphology can be misleading due to presumably large number of yet undescribed, likely sympatric species. Therefore, examination of the aedeagus is always required for identification.

***Cephennodes (Fusionodes) transversicollis* n. sp.**

(Figs. 78-80, 94)

NAME DERIVATION

The name refers to very broad and short, nearly rectangular pronotum.

DIAGNOSIS

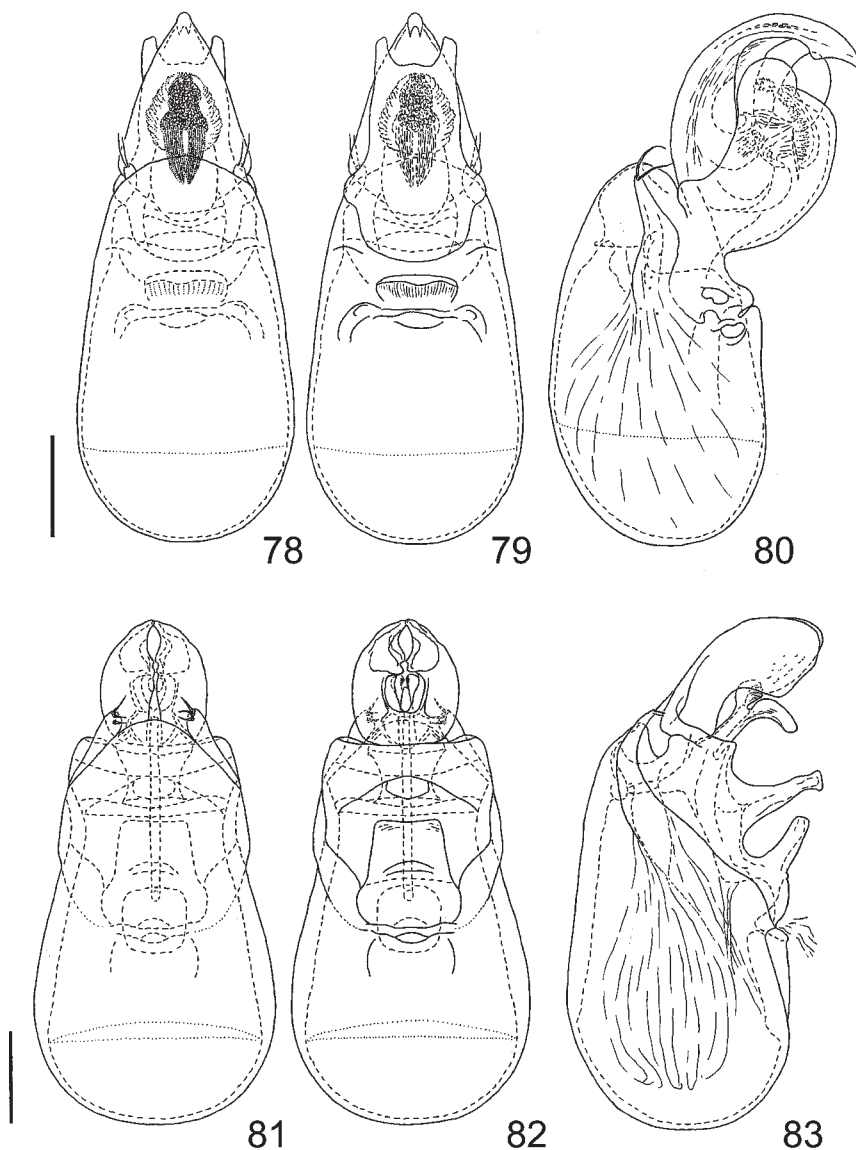
External characters of this species are relatively generalized and unremarkable, so the rectangular, strongly transverse pronotum can only be used for preliminary identification. This species differs clearly from all other congeners in the shape of the aedeagus, which in lateral view has particularly large, relatively compact apical projections, with particularly unique ventral component, which is rectangular and bears deep notch in apical margin. Female characters remain unknown.

DESCRIPTION

Male (Fig. 94). Body moderately large, elongate and moderately convex, with distinct but shallow constriction between pronotum and elytra, body length 1.71 mm, pigmentation dark brown, setation light brown. Head moderately large, length 0.24 mm, width 0.35 mm; vertex and frons regularly convex; supraantennal tubercles large, distinct and strongly raised; eyes large and strongly convex. Punctuation between supraantennal tubercles fine, composed of very small, moderately sharply marked punctures separated by spaces 2-3x as long as puncture diameters, internal parts of supraantennal tubercles and sides of clypeus bear distinctly larger punctures, median part of clypeus, posterior part of frons and median part of vertex impunctate, sides of vertex with sparse and very small, indistinct punctures; setation sparse, moderately long, suberect, impunctate area on clypeus, frons and vertex bears sparser setae than those on punctate areas. Antennae relatively short, moderately compact, length 0.80 mm, five terminal antennomeres are covered with slightly different, more coarse microsculpture than remaining antennomeres, but club is not delimited and antennae can be more adequately described as gradually thickened toward apices; antennomere I about 1.2-1.3x as long as broad; II distinctly narrower and slightly shorter than I, about 1.3x as long as broad; III distinctly narrower and much shorter than II, only slightly longer than broad; IV-V subequal in width and length, each as narrow as II but about as long as broad or minimally shorter than broad; VI as narrow as V but slightly longer than broad; VII distinctly longer but minimally (barely noticeably) broader than VI, about 1.3x as long as broad; VIII slightly broader than VII but shorter, about as long as broad; IX broader and longer than VIII, about as long as broad; X yet larger, slightly broader than long; XI slightly broader than X, minimally shorter than IX-X together.

Pronotum very short, nearly rectangular in shape, broadest between middle and anterior third, length 0.50 mm, width 0.74 mm. Anterior margin long and broadly rounded; lateral margins very strongly rounded in anterior third, then weakly rounded and convergent toward nearly straight hind angles; posterior margin moderately deeply biemarginate; lateral ante-basal pits large, indistinctly delimited, center of each pit is located slightly closer to posterior than to lateral margin; lateral carinae narrow, not

separated from margins. Punctuation on central part of pronotum fine, composed of very small, but sharply marked punctures separated by spaces 1.5-3x as long as puncture diameters, relatively broad area along posterior margin remains impunctate (or nearly impunctate), elongate area running from each front angle to lateral ante-basal pit (but



78-80. *Cephennodes transversicollis* n. sp.; 81-83. *Cephennodes magnus* n. sp. Aedeagus in dorsal (78, 81), ventral (79, 82) and lateral (80, 83) views (scale bars: 0.1 mm)

not adjacent to lateral margin) is covered with punctures larger than those in middle, distinctly coarse. Setation relatively short, moderately dense, only slightly suberect.

Elytra oval, broadest slightly posterior to anterior third, length 0.97 mm, width 0.79 mm, EI 1.23. Subhumeral lines as long as 0.3x length of elytra, distinctly carinate, only slightly curved; apices of elytra separately rounded. Punctuation slightly sparser than that on central part of pronotum, but composed of smaller and less distinct punctures; setation similar to that on pronotum but slightly longer and more suberect. Hind wings reduced, only as long as elytra.

Metasternum with very fine punctuation.

Legs moderately long and slender, without peculiar characters.

Aedeagus (Figs. 78-80) 0.51 mm in length, symmetrical, with very large apical complex, in dorso-ventral view composed of subtriangular dorsal part with curved ventrally bifurcate apex and subrectangular ventral part, with deep and broad apical emargination; parameres bear two apical setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): three white printed labels: "CHINA: S-Shaanxi (Daba Shan), mountain range N pass 22 km NW Zhenping, N-slope, 32°01'N, 109°21'E, 2400 m, 13. VII. 2001, leg. M. Schülke, (C01-11)", "mixed forest (Pinus, Salix and other deciduous trees), (sifted) [C01-11]", and "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Shaanxi Prov.

REMARKS

This species has impunctate median area on the frons, which makes it similar to *C. lustrifrons*. However, the shape of the pronotum (much more transverse in *C. transversicollis*) and generally smaller body allow to avoid misidentification, not to mention much different shapes of the aedeagi. This species could be classified near the *graeseri* group, but more comprehensive analysis is necessary to clarify placement of this and other species with similar apical projections of the aedeagus.

***Cephenodes (Fusionodes) magnus* n. sp.**

(Figs. 81-83, 95)

NAME DERIVATION

The name refers to the large body of this species; this is one of the largest members of *Fusionodes*.

DIAGNOSIS

Males of this species can be easily distinguished from any similar congeners on the basis of very large body (2 mm in length); elytra much broader than pronotum; very

broad lateral areas on pronotum covered with punctures larger and denser than those in middle, occupying nearly lateral third of pronotum on each side; strikingly short setation, especially that on elytra, where setae are distinctly shorter than those on pronotum and nearly recumbent; and unique aedeagus with two long subapical projections of ventral wall, well visible in lateral view. Female characters remain unknown.

DESCRIPTION

Male (Fig. 95). Body very large, 2.04 mm in length, strongly convex, stout but with distinct constriction between pronotum and elytra, dark brown with light brown setation. Head moderately large, length 0.25 mm, width 0.47 mm, vertex and frons regularly, but weakly convex, vertex with pair of small tubercles; supraantennal tubercles large and distinctly marked; eyes large and strongly convex. Punctuation of frontoclypeal area and vertex distinct and dense, composed of moderately large, sharply marked punctures largest and most dense between frons and clypeus, where they are separated by spaces slightly shorter than puncture diameters, punctures become gradually smaller and sparser posteriorly; setation sparse and relatively short, suberect. Antennae moderately long, 1.05 mm in length, relatively slender but compact, with five terminal antennomeres covered with dense microsculpture, but not separated as club, antennae are rather gradually thickened toward apex; antennomere I about 1.2x as long as broad; II distinctly narrower and slightly longer than I, about 1.6x as long as broad; III only minimally narrower than II but much shorter, about 1.2x as long as broad; IV-VI subequal in length and width, each as narrow as III but minimally shorter; VII minimally broader and much longer than VI, about 1.6x as long as broad; VIII slightly broader but distinctly shorter than VII, about as long as broad; IX slightly broader and longer than VIII, about as long as broad; X yet larger, also about as long as broad; XI slightly broader than X, about as long as IX-X together.

Pronotum approximately subtrapezoidal in shape, broadest between middle and anterior third, length 0.57 mm, width 0.85 mm. Anterior margin broadly rounded; lateral margins strongly rounded in anterior third, in more than posterior third nearly straight and distinctly convergent toward indistinctly sharp hind angles, microsculpture of lateral margins very indistinct; posterior margin shallowly biemarginate; lateral ante-basal pits small, located distinctly closer to lateral than to posterior margins; lateral carinae narrow, not separated from margins. Punctuation on central part of pronotum dense, composed of small and shallow, but sharply marked punctures separated by variable spaces, on average slightly shorter than puncture diameters, punctures become gradually larger and denser toward lateral margins starting from nearly lateral third on each side of pronotum, this lateral area covered with denser punctures is narrower near each front angle and ante-basal pit, narrow area along posterior margin remains nearly impunctate. Setation relatively short, moderately dense, only slightly suberect.

Elytra very stout, distinctly broader than pronotum, broadest near anterior third, length 1.22 mm, width 1.04 mm, EI 1.17. Subhumeral lines short, only 0.2x as long as elytra, nearly straight, marked rather as sharp border between higher raised humeral and lower subhumeral region on each elytron than as carinae; apices of elytra separately rounded. Punctuation dense but composed of very small and indistinct punctures,

much finer than those on central part of pronotum; setation strikingly short, slightly shorter than that on pronotum, relatively sparse and nearly recumbent. Hind wings well developed.

Metasternum covered with very fine punctation.

Legs moderately long and slender, without peculiar characters.

Aedeagus (Figs. 81-83) 0.55 mm in length, symmetrical, with relatively small apical complex, in dorso-ventral view composed of rounded lateral parts; ventral wall bears two very long, tapered projections, one directly above ventral orifice, and another one near base of apical complex; parameres with very short three apical setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: W-Sichuan 1999, Ganzi Tibet Aut. Pref., Luding Co., W Erlangshan-Pass, 2600 m, 7 km SSE Luding, 29°51'N, 102°15'E, Laubstreu, Pilze, 29. VI. leg. M. Schülke", and small green printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

This species is slightly smaller than huge *C. hippopotamus* JALOSZYŃSKI, which measures 2.32 mm and occurs in Fujian; its length is equal to that of *C. malleiphallus* JALOSZYŃSKI from Yunnan. All the three species share similar body shape, with very broad, stout elytra, but details of morphology are clearly different and possibility of misidentification is rather low. *Cephennodes magnus* differs from the two mentioned species in strikingly short and nearly recumbent setation on the elytra, which in *C. hippopotamus* and *C. malleiphallus* is much longer and much more erect.

Cephennodes (Fusionodes) wrasei n. sp.

(Figs. 84-86, 96)

NAME DERIVATION

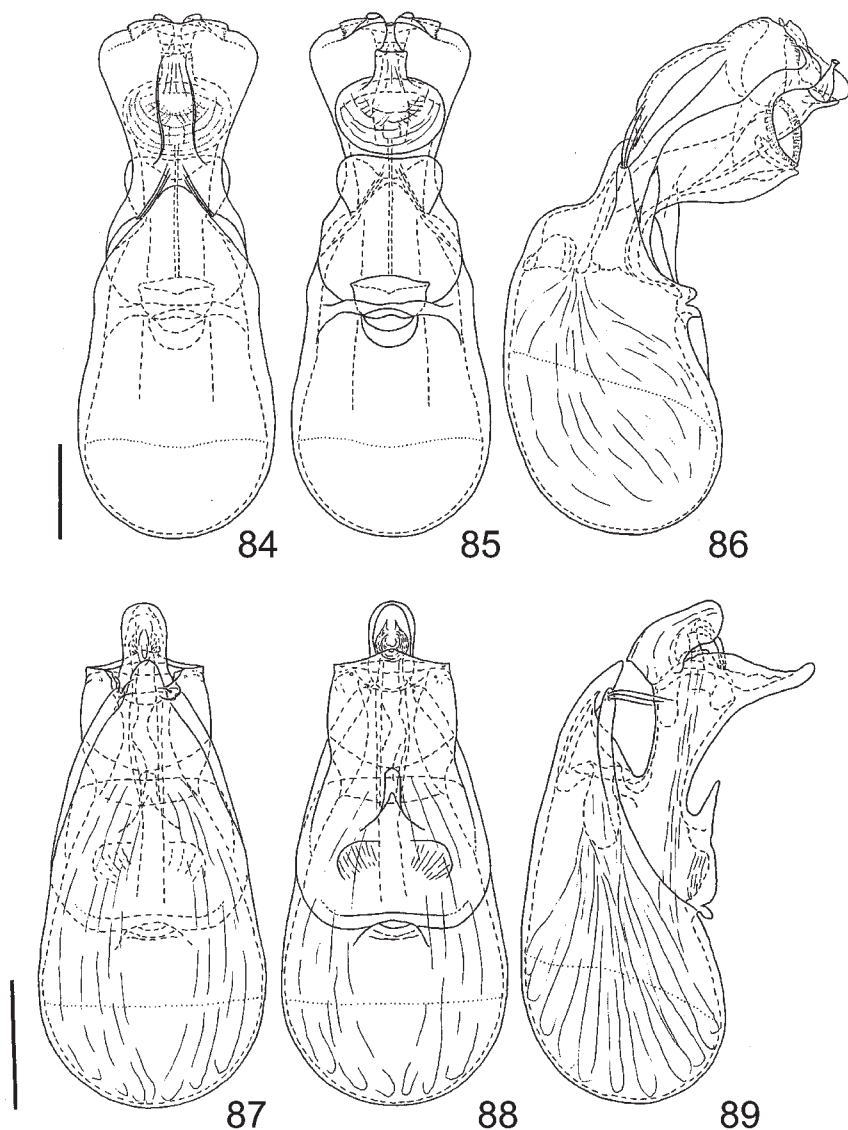
This name is dedicated to David WRASE, collector of the type material.

DIAGNOSIS

External morphology of this species is rather generalized and unremarkable and subtle differences can be noticed only when specimens of similar species of *Fusionodes* are directly compared. Therefore, the primary (and unmistakable) diagnostic character is the unique aedeagus, which in dorso-ventral view is hourglass-shaped and has massive and strongly ventrally curved apical projections. Female characters remain unknown.

DESCRIPTION

Male (Fig. 96). Body large, 1.94 mm in length, elongate, with shallow constriction between pronotum and elytra, dark brown, covered with light brown setation. Head moderately large, length 0.26 mm, width 0.46 mm; vertex and frons regularly convex, vertex with pair of tiny tubercles; supraantennal tubercles large, distinctly raised; eyes



84-86. *Cephennodes wrasei* n. sp.; 87-89. *Cephennodes ovatus* n. sp. Aedeagus in dorsal (84, 87), ventral (85, 88) and lateral (86, 89) views (scale bars: 0.1 mm)

large and strongly convex. Punctuation of frons distinct, composed of moderately large, sharply marked punctures separated by spaces about as long as puncture diameters, punctures become gradually smaller and sparser posteriorly so that they are very fine on vertex, small anterior part of clypeus remains impunctate; setation moderately sparse and relatively short, suberect. Antennae moderately long, 1.02 mm in length, relatively slender but compact, with five terminal antennomeres covered with dense and matt microsculpture and forming very indistinctly delimited club; antennomere I only slightly longer than broad; II distinctly narrower than I but similar in length, about 1.3x as long as broad; III slightly narrower and much shorter than II, slightly longer than wide; IV-VI subequal in length and width, each as narrow as III but minimally shorter; VII minimally broader and much longer than VI, about 1.3x as long as broad; VIII slightly broader but distinctly shorter than VII, only slightly longer than broad; IX distinctly broader and longer than VIII, about as long as broad; X yet larger, about as long as broad; XI slightly broader than X, minimally (hardly noticeably) shorter than IX-X together.

Pronotum nearly subrectangular in shape, broadest slightly anterior to middle, length 0.56 mm, width 0.80 mm. Anterior margin very broad, rounded; lateral margins strongly rounded near front angles, between widest place and straight hind angles nearly straight and minimally convergent posteriorly, very indistinctly serrate; posterior margin moderately deeply biemarginate; lateral ante-basal pits relatively deep but indistinctly delimited, with their centers nearly equally distant from posterior and lateral margins; lateral carinae narrow, not separated from margins. Punctuation on central part of pronotum very fine but dense, composed of very small but sharply marked punctures barely discernable under magnification 40x, area near each front angle extending posteriorly up to ante-basal pits is covered with small but dense and slightly coarse punctures; setation relatively short, moderately dense, suberect.

Elytra oval, broadest near anterior third, length 1.12 mm, width 0.97 mm, EI 1.15. Subhumeral lines as long as 0.24x length of elytra, very narrow, carinate, nearly straight; apices of elytra separately rounded. Punctuation slightly sparser than that on central part of pronotum and composed of slightly larger punctures, but they are very shallow, diffused and becoming very indistinct toward sides and apices of elytra; setation similar to that on pronotum. Hind wings reduced, only about half as long as elytra.

Metasternum covered with very fine punctuation.

Legs moderately long and slender, without peculiar characters.

Aedeagus (Figs. 84-86) 0.55 mm in length, relatively slender, symmetrical, in dorso-ventral view hourglass-shaped, with massive and compact apical projections; parameres with three moderately long setae.

Female. Unknown.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: W. Sichuan, Ganzi Tibet Aut. Pref., Luding Co., Erlang Shan Pass, Road 318, ca. 3000 m, 8 km SE Luding, 190 km SW Chengdu, 21.-29. VI. 1999 D.W. Wrase", and small green printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Sichuan Prov.

REMARKS

This species is very similar to several other members of *Fusionodes*. Besides its unique and monstrous aedeagus, *C. wrasei* differs from all of them in extremely fine punctuation of pronotum. In similar *C. ascipenis* described below and in *C. schuelkei* JAŁOSZYŃSKI punctuation on the central part of the pronotum is well visible under magnification 40x. *Cephennodes rectangulicollis* JAŁOSZYŃSKI has somewhat similar body shape and size, but it differs from *C. wrasei* in much longer and very erect setation of the elytra. However, taking into account possibly large number of yet undescribed species occurring in vast and very poorly studied regions of China, the punctuation and setation are not reliable diagnostic characters alone, and identifications must be confirmed by examining the aedeagus.

***Cephennodes (Fusionodes) ovatus* n. sp.**

(Figs. 87-89, 97)

NAME DERIVATION

The specific epithet refers to the oval, very compact body shape of this species.

DIAGNOSIS

This species is unambiguously defined by the following set of characters: small size; very compact body with nearly confluent sides of pronotum and elytra; very large and indistinctly delimited ante-basal pits on pronotum; narrow but very sharply delimited lateral pronotal carinae, not separated from lateral margins; and unique shape of the aedeagus, which in lateral view has very highly raised apical part of dorsal wall of the median lobe and massive complex of ventral apical projections. Identification of females should be confirmed by direct comparison with males.

DESCRIPTION

Male (Fig. 97). Body small, length 1.40-1.47 mm (mean 1.44 mm), moderately convex, very compact, with indistinct constriction between pronotum and elytra, relatively light brown, with yellowish setation. Head relatively small, length 0.20 mm, width 0.30-0.31 mm (mean 0.30 mm); vertex and frons regularly convex, vertex with pair of small tubercles; supraantennal tubercles distinctly raised but indistinctly delimited; eyes small but strongly convex. Punctuation on frons and vertex composed of very small, shallow and indistinctly marked punctures separated by spaces 1.5-3x as long as puncture diameters; setation short and sparse, suberect. Antennae moderately long, length 0.70-0.75 mm (mean 0.72 mm), relatively slender but compact, with four terminal antennomeres distinctly broadened and forming well delimited, broad club (antennomere VII can hardly be included into club due to its width comparable with that of VI); antennomere I slightly more than 1.5x as long as broad; II slightly narrower and distinctly shorter than I, about 1.2x as long as broad; III-VI subequal in length and

width, each slightly narrower and much shorter than II, 1.1-1.2x as long as broad; VII as narrow as VI but much longer, about 1.8-1.9x as long as broad; VIII distinctly broader but much shorter than VII, minimally broader than long; IX broader and longer than VIII, about as long as broad; X yet larger, minimally broader than long; XI distinctly broader than X, about as long as IX-X together.

Pronotum approximately subtrapezoidal in shape, broadest near middle or equally broad between middle and posterior third, length 0.45-0.47 mm (mean 0.46 mm), width 0.60-0.66 mm (mean 0.64 mm). Anterior margin broad, rounded; lateral margins broadly rounded, stronger in anterior half, weaker in posterior half, where sides are slightly narrowing toward sharp hind angles; posterior margin deeply biemarginate; lateral ante-basal pits large, deep but very indistinctly delimited from surrounding surface, with deepest place about equally distant from posterior and lateral margins; lateral carinae narrow but very sharply delimited, not separated from margins. Punctuation composed of moderately dense, but very small, shallow and very indistinct punctures, neither larger nor denser near front angles; setation moderately dense, short, only slightly suberect.

Elytra oval, relatively strongly narrowing posteriorly, broadest distinctly anterior to anterior third, length 0.75-0.80 mm (mean 0.78 mm), width 0.65-0.69 mm (mean 0.67 mm), EI 1.15-1.16. Subhumeral lines short, as long as only 0.23x length of elytra, straight, non-carinate, formed as sharp border between more convex humeral and less convex subhumeral region; apices of elytra nearly rounded together. Punctuation and setation very similar to those on pronotum. Hind wings entirely reduced.

Metasternum covered with very fine punctuation.

Legs moderately long and slender, without peculiar characters.

Aedeagus (Figs. 87-89) 0.40 mm in length, symmetrical, median lobe with apical part of dorsal wall strongly projected and relatively narrow at apex; apical projections relatively small, in dorso-ventral view composed of subquadrate basal part and small, rounded median apical projection; ventral wall bears slender, triangular projection at base of apical sclerites; parameres very slender, with three apical setae.

Female. Very similar to male, wingless. Body length 1.40-1.49 mm (mean 1.46 mm), length of head 0.19-0.20 mm (mean 0.20 mm), width of head 0.31 mm, length of antennae 0.67-0.70 mm (mean 0.68 mm), length of pronotum 0.46-0.47 mm (mean 0.47 mm), width of pronotum 0.62-0.69 mm (mean 0.66 mm), length of elytra 0.75-0.82 mm (mean 0.79 mm), width of elytra 0.66-0.70 mm (mean 0.68 mm), EI 1.14-1.17.

TYPE MATERIAL

Holotype (male): white printed label: "CHINA: W-Sichuan 1999, Ganzi Tibet Aut. Pref., Yajiang Co., Shalui Shan, Bachtal 6 km WSW Yajiang, 3250 m, 30°01'N, 100°57'E, Laubstreu, Rinde, Pilze, 4. VII., leg. M. Schülke", and small green printed label: "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB). Paratypes: 7 ♂♂, 6 ♀♀, same data as for holotype (PCMS, PCPJ).

DISTRIBUTION

China, Sichuan Prov.

***Cephennodes (Fusionodes) ascipenis* n. sp.**

(Figs. 90-92, 98)

NAME DERIVATION

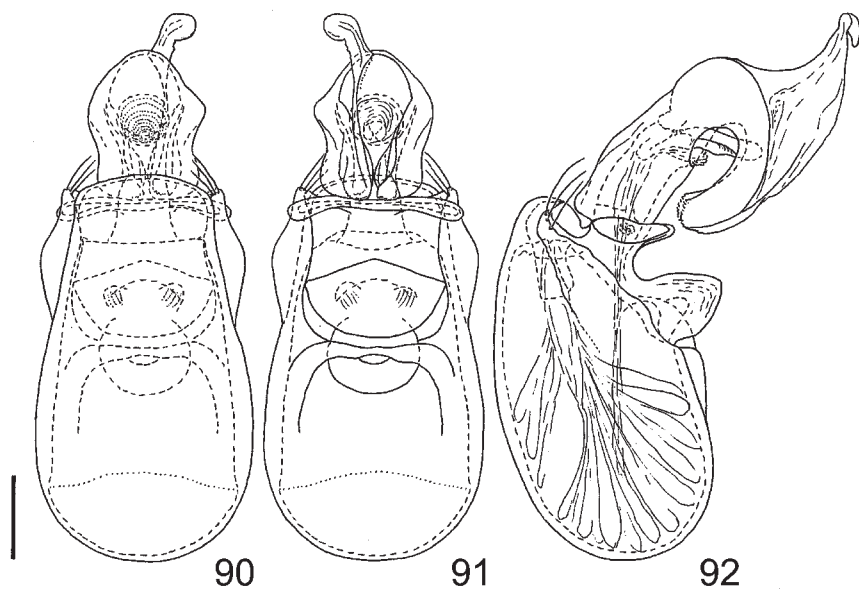
The name refers to an unusual, axe-like shape of the ventral process of apical projection of the aedeagus; after Latin “*ascia*”, meaning “an axe”.

DIAGNOSIS

External morphology of this species is unremarkable, and the primary diagnostic characters are those associated with the aedeagus: apical projections in lateral view forming very large, axe-shaped structure are unique for *C. ascipenis*. Female characters remain unknown.

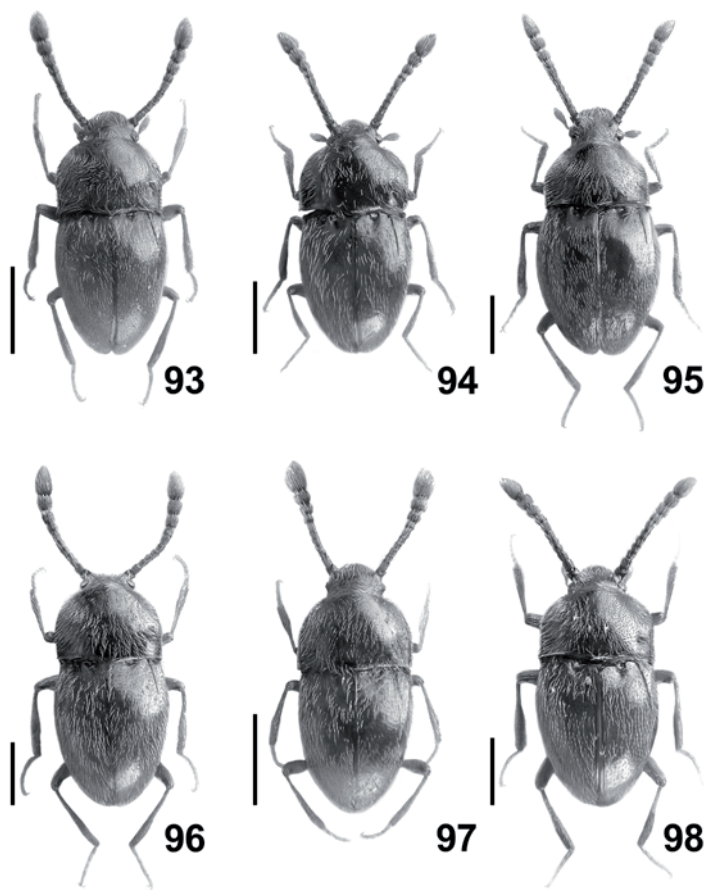
DESCRIPTION

Male (Fig. 98). Body moderately large, 1.81 mm in length, relatively strongly convex and elongate, with shallow constriction between pronotum and elytra, dark brown, covered with light brown setation. Head moderately large, length 0.25 mm, width 0.40 mm; vertex and frons regularly convex; supraantennal tubercles large and distinct; eyes large and strongly convex. Punctuation dense and very distinct, punctures moderately large, deep and sharply marked, on frons separated by spaces about equal to puncture diameters or slightly longer, punctures are gradually sparser and smaller toward anterior and posterior margins of head and central part of clypeus is impuncta-



90-92. *Cephennodes ascipenis* n. sp. Aedeagus in dorsal (90), ventral (91) and lateral (92) views (scale bars: 0.1 mm)

te, whereas central part of vertex bears unevenly distributed punctures separated by spaces 1.5-3x as long as puncture diameters; setation sparse, relatively short, suberect. Antennae moderately long, 1.00 mm in length, relatively compact and thick, but with rather slender five terminal antennomeres, which are recognizable as club only due to coarse microsculpture, different from more smooth surface of flagellomeres; antennomere I only slightly longer than broad; II distinctly narrower than I but comparable in length, 1.3x as long as broad; III distinctly narrower and shorter than II, 1.2x as long as broad; III-V subequal in length and width, each as narrow as III but shorter, about as long as broad or minimally longer than broad; VII minimally broader and distinctly longer than VI, 1.3x as long as broad; VIII broader but minimally shorter than VII, about as long as broad; IX broader and slightly longer than VIII, minimally broader than long; X larger than IX, as long as broad; XI slightly broader than X, distinctly shorter than IX-X together.



93-98. Dorsal aspect of male. 93—*Cephennodes serratus* n. sp.; 94—*C. transversicollis* n. sp.; 95—*C. magnus* n. sp.; 96—*C. wrasei* n. sp.; 97—*C. ovatus* n. sp.; 98—*C. ascipenis* n. sp. (scale bars: 0.5 mm)

Pronotum nearly subrectangular, equally broad from about middle up to base, length 0.51 mm, width 0.80 mm. Anterior margin broad, rounded; lateral margins strongly rounded in anterior third, in posterior half nearly straight, hind angles slightly sharp; posterior margin deeply biemarginate; lateral ante-basal pits broad and indistinctly delimited, deepest place of each is about equally distant from posterior and lateral margins; lateral carinae narrow but distinct, not separated from margins. Punctuation on central part of pronotum distinct, but composed of small, sharply marked punctures separated by spaces 1-1.5x as long as puncture diameters, punctures are gradually smaller and shallower toward anterior and posterior margins of pronotum, and narrow area along posterior margin appears impunctate, punctures on sides are gradually denser and coarser than those in middle, starting from about lateral third on each side. Setation moderately long and dense, only slightly suberect.

Elytra oval, broadest near anterior third, relatively strongly narrowing toward apices, length 1.05 mm, width 0.95 mm, EI 1.1. Subhumeral lines equal to 0.25x length of elytra, carinate; apices of elytra separately rounded. Punctuation about as dense as that on central part of pronotum, but composed of very small and shallow, moderately distinct punctures; setation very similar to that on pronotum. Hind wings well developed.

Metasternum covered with very fine punctures.

Legs moderately long and slender, without additional diagnostic characters.

Aedeagus (Figs. 90-92) very large, 0.67 mm in length, with bizarre apical projections bearing asymmetrical ventral sclerite, which in lateral view is axe-shaped; a unique feature is also transverse ventral structure located at the base of apical sclerites, as well as broad and short projection just above ventral orifice.

Female. Unknown.

TYPE MATERIAL

Holotype (male): three white printed labels: "CHINA: S-Shaanxi (Qinling Shan), pass on rd. Zhouzhi – Foping, 105 km SW Xi'an, N-slope, 1880 m, 33°44' N, 107°58' E, leg. M. Schülke" "4. VII. 2001, shady rockwall base, moist (shifted), [C01-03]", and "Sammlung M. Schülke, Berlin" (temporarily in PCMS, final depository MNKB).

DISTRIBUTION

China, Shaanxi Prov.

REMARKS

This species is similar to *C. wrasei*; see remarks for that species.

ACKNOWLEDGMENTS

Most specimens used in this study have been collected and kindly sent to me by Dr. Michael SCHÜLKE (Berlin, Germany). My study on the East Palearctic and Oriental Cephenniini taking place mostly during my stay in Japan were supported in various ways by Dr. Shûhei NOMURA (National Science Museum, Tokyo).

REFERENCES

- JALOSZYŃSKI, P., 2005. The Cephennini of China. I. *Neseuthia* SCOTT of Fujian Province (Coleoptera, Scydmaenidae). Genus, **16**: 171-175.
- , 2007. The Cephenniini (Coleoptera, Scydmaenidae) of China. II. *Cephennodes* REITTER of southern provinces, with taxonomic notes on the *Cephennodes-Chelonoidum* complex. Genus, Wrocław, **18**: 7-101.